=> FILE REG
FILE 'REGISTRY' ENTERED AT 17:42:47 ON 20 SEP 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 19 SEP 2002 HIGHEST RN 453507-55-6
DICTIONARY FILE UPDATES: 19 SEP 2002 HIGHEST RN 453507-55-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 17:42:51 ON 20 SEP 2002
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FILE COVERS 1907 - 20 Sep 2002 VOL 137 ISS 13
FILE LAST UPDATED: 19 Sep 2002 (20020919/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> D QUE L90
L62 5 SEA FILE=REGISTRY ABB=ON (124-04-9/BI OR 151-56-4/BI OR 25322-68-3/BI OR 72018-12-3/BI OR 9002-98-6/BI)
L63 3 SEA FILE=REGISTRY ABB=ON L62 AND PMS/CI
L64 35880 SEA FILE=REGISTRY ABB=ON POLYAMINE/PCT
L65 153874 SEA FILE=REGISTRY ABB=ON POLYVINYL/PCT
L66 74658 SEA FILE=REGISTRY ABB=ON L65 AND 1-8/N
L67 33454 SEA FILE=REGISTRY ABB=ON L66 AND (AMIN? OR AMID?)

Polymer class terms

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

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L68      220214 SEA FILE=REGISTRY ABB=ON  POLYETHER/PCT
L69       43248 SEA FILE=HCAPLUS ABB=ON  L64
L70       27540 SEA FILE=HCAPLUS ABB=ON  L67
L71      340100 SEA FILE=HCAPLUS ABB=ON  L68
L72       18865 SEA FILE=HCAPLUS ABB=ON  (L69 OR L70) AND L71
L73         346 SEA FILE=HCAPLUS ABB=ON  L72 AND PAPER?/SC
L74          73 SEA FILE=HCAPLUS ABB=ON  L73 AND POLYAMINE#/IT
L75          18 SEA FILE=HCAPLUS ABB=ON  L74 AND POLYOXYALKYLENE?/IT
L76       18902 SEA FILE=HCAPLUS ABB=ON  L63/D
L77         107 SEA FILE=HCAPLUS ABB=ON  L76(L)?CHLOROHYDRIN?
L78        6496 SEA FILE=HCAPLUS ABB=ON  L76(L)(?OXYALKYLENE? OR ?OXYETHYLEN?
                OR POLYALKYLEN? OR POLYETHYLENE? )
L79         132 SEA FILE=HCAPLUS ABB=ON  L78 AND PAPER?/SC
L80          15 SEA FILE=HCAPLUS ABB=ON  L77 AND PAPER?/SC
L81           8 SEA FILE=HCAPLUS ABB=ON  L79 AND POLYAMINE?
L82         184 SEA FILE=HCAPLUS ABB=ON  L73 AND (?HYDRIN? OR ?EPOX? OR
                ?CARBOXYL? OR ?CHLOROFORMAT? OR ?ISOCYANAT? OR NCO OR HALOGEN)
L83          55 SEA FILE=HCAPLUS ABB=ON  L74 AND L82
L84          75 SEA FILE=HCAPLUS ABB=ON  L75 OR L80 OR L81 OR L83
L85           2 SEA FILE=REGISTRY ABB=ON  L62 NOT L63
L86        2990 SEA FILE=HCAPLUS ABB=ON  L85/D
L87         135 SEA FILE=HCAPLUS ABB=ON  L86(L)(?OXYALKYLENE? OR ?OXYETHYLEN?
                OR POLYALKYLEN? OR POLYETHYLENE? )
L88           9 SEA FILE=HCAPLUS ABB=ON  L87 AND PAPER?/SC
L89          82 SEA FILE=HCAPLUS ABB=ON  L84 OR L88
L90          29 SEA FILE=HCAPLUS ABB=ON  L89 AND CATION?
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=> D L90 1-29 ALL HITSTR

L90 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:354087 HCAPLUS
DN 136:371303
TI High-solids content coating composition and method for paper with improved ink jet printability
IN Schliesman, Leonard J.; Tritz, Leland O.; Spreda, Karen K.
PA Stora Enso North America, USA
SO U.S. Pat. Appl. Publ., 16 pp., Cont.-in-part of U.S. Ser. No. 642,726.
CODEN: USXXCO
DT Patent
LA English
IC C03C017-00; C09D005-00
NCL 523160000
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 42

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002055552	A1	20020509	US 2001-941279	20010827
PRAI	US 2000-642726	A2	20000821		

AB A coating compn. for an ink jet recording medium comprises an aq. suspension of binder, a **cationic** fixing agent, an absorptive pigment, and a sizing agent. The coating compn. combines solids content of greater than 30% with good runnability. The compn. may preferably be dispersed at pH values in the range of 4.5 to 7.0. The pigment is preferably a mixt. of 50% or more silica gel having a pore vol. of 0.5-2.0 cc/g, and 10% or more alumina or alumina hydrate. A method for making down a compn. has sequential steps of dispersing a binder in water, adding a **cationic** fixing agent, dispersing an alumina and an absorptive silica, adding a fluorescent whitening agent, cooling the compn., and

finally adding a sizing agent.

ST silica alumina coating paper ink jet printability

IT Latex
(binder, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT **Polyamines**
Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fixing agent, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT Ink-jet printing
(high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT Paper
(ink jet-printable; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polymers, fixing agent, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT 9002-89-5 9003-39-8, Polyvinyl pyrrolidone 9005-25-8, Starch, uses
303778-35-0, Airvol 805
RL: TEM (Technical or engineered material use); USES (Uses)
(binder, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT 79-06-1, 2-Propenamide, uses **25322-68-3**, Polyethylene oxide
26062-79-3, Lectrapel **30551-89-4**, Allylamine polymers
RL: TEM (Technical or engineered material use); USES (Uses)
(fixing agent, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT 373364-16-0, Tinopal hst
RL: TEM (Technical or engineered material use); USES (Uses)
(fluorescent whitening agent, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

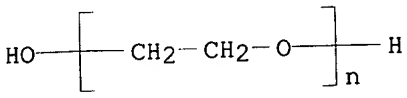
IT 9004-34-6, Cellulose, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(modified, binder, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pigment, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT 215511-98-1, Chromaset 600 395071-00-8, Baysynthol agp
RL: TEM (Technical or engineered material use); USES (Uses)
(sizing agent, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink jet printability)

IT **25322-68-3**, Polyethylene oxide **26062-79-3**, Lectrapel
30551-89-4, Allylamine polymers
RL: TEM (Technical or engineered material use); USES (Uses)
(fixing agent, ink jet-adapted paper coating; high-solids content silica-alumina coating compn. and method for paper with improved ink

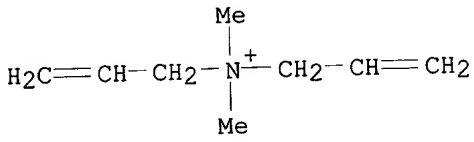
jet printability)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 26062-79-3 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

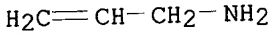
CRN 7398-69-8
CMF C8 H16 N . Cl



RN 30551-89-4 HCAPLUS
CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9
CMF C3 H7 N



L90 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:347678 HCAPLUS
DN 136:356682
TI Agents for improving the drainage during papermaking
IN Nakamura, Tomonori; Wakatsuki, Shogo
PA Hymo Corpraton, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM D21H021-10
ICS C08L033-26; C08L079-00; D21H017-45
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	JP 2002129493	A2	20020509	JP 2000-235057	20000803

AB The drainage of papermaking is improved by using draining aids which comprise (A) **cationic** polymers and (B) polyethyleneimine-ethylene oxide or/and propylene oxide adducts where the A contains 5-100 mol% units derived from diallylamine or/and quaternary ammonium group-contg. (meth)acrylic acid esters or amides. Thus, a mixt. of a diallyldimethylammonium chloride-acrylamide 10:90 copolymer and a polyethyleneimine-ethylene oxide adduct was used as draining aid for papermaking with good result.

ST papermaking draining aid polyethyleneimine ethylene oxide adduct **cationic** polymer; diallyldimethylammonium chloride acrylamide copolymer papermaking draining aid

IT Paper
(agents for improving drainage during papermaking)

IT **Polyoxyalkylenes**, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**polyamine-**, graft; agents for improving drainage during papermaking)

IT **Polyamines**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**polyoxyalkylene-**, graft; agents for improving drainage during papermaking)

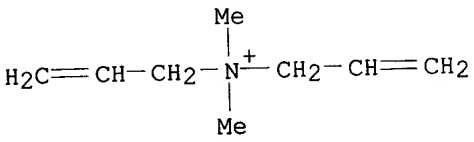
IT **26590-05-6P**, Acrylamide-diallyldimethylammonium chloride copolymer 69418-26-4P, Acrylamide-acryloyloxyethyltrimethylammonium chloride copolymer 74153-51-8P, Acrylamide;acryloyloxyethyldimethylbenzylammonium chloride copolymer 75150-29-7P, Acrylamide;acryloylaminopropyltrimethylammonium chloride copolymer 108388-79-0P, Acrylamide-acryloyloxyethyldimethylbenzylammonium chloride-acryloyloxyethyltrimethylammonium chloride copolymer **116770-99-1P**, Aziridine-ethylene oxide graft copolymer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(agents for improving drainage during papermaking)

IT **26590-05-6P**, Acrylamide-diallyldimethylammonium chloride copolymer **116770-99-1P**, Aziridine-ethylene oxide graft copolymer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(agents for improving drainage during papermaking)

RN 26590-05-6 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, polymer with 2-propenamide (9CI) (CA INDEX NAME)

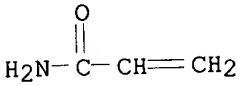
CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



CM 2

CRN 79-06-1
CMF C3 H5 N O



RN 116770-99-1 HCAPLUS
CN Aziridine, polymer with oxirane, graft (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

CM 2

CRN 75-21-8
CMF C2 H4 O

L90 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:265679 HCAPLUS
DN 134:282339
TI Method for accelerated degradation of mulch paper and mulch paper
IN Dussaud, Joseph; Bouvier, Leonie
PA Ahlstrom Paper Group Research and Competence Center, Fr.
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA French

IC ICM D21H025-02
ICS C09K017-52
CC 43-9 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 19, 60

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001025536	A1	20010412	WO 2000-FR2510	20000912

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

FR 2799216	A1	20010406	FR 1999-12600	19991005
FR 2799216	B1	20011123		
EP 1141484	A1	20011010	EP 2000-962609	20000912

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, IE, SI, LT, LV, FI, RO

PRAI FR 1999-12600	A	19991005	
WO 2000-FR2510	W	20000912	

AB The invention concerns a method for accelerated degrdn. of mulch paper, whereof the cellulose fibers are impregnated with a hydrophobic resin providing said paper with resistance to poor weather conditions. Said method consists in spraying on the paper an enzymic soln. for degrading both the resin and the cellulose.

ST mulch paper enzyme enhanced biodegradability

IT Decomposition catalysts
(bio-; enzymic acceleration of degrdn. of mulch paper)

IT Biodegradable materials
Mulches
Paper
(enzymic acceleration of degrdn. of mulch paper)

IT Enzymes, uses
RL: CAT (Catalyst use); USES (Uses)
(enzymic acceleration of degrdn. of mulch paper)

IT Aminoplasts
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mulch paper impregnates; enzymic acceleration of degrdn. of mulch paper)

IT **Polyamines**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polyamide-, reaction products, with **epichlorohydrin**, mulch paper impregnates; enzymic acceleration of degrdn. of mulch paper)

IT Polyamides, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**polyamine**-, reaction products, with **epichlorohydrin**, mulch paper impregnates; enzymic acceleration of degrdn. of mulch paper)

IT 9001-22-3, .beta.-Glucosidase 9012-54-8, Cellulase 9012-56-0, Amidase 9013-79-0, Esterase 37329-65-0, Exocellobiohydrolase 74191-29-0, Endoglucanase
RL: CAT (Catalyst use); USES (Uses)
(enzymic acceleration of degrdn. of mulch paper)

IT 106-89-8D, **Epichlorohydrin**, reaction products with polyamide-**polyamines 9002-98-6**, Polyethylenimine 9003-08-1, Melamine resin 9005-25-8D, Starch, **cationic** derivs., uses **9011-05-6**, Urea resin
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mulch paper impregnates; enzymic acceleration of degrdn. of mulch paper)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Fzb Biotechnik Gmbh; DE 4342514 A 1995 HCAPLUS
(2) Goettmann, J; US 5853541 A 1998 HCAPLUS
(3) Hall, W; GB 370482 A 1932 HCAPLUS
(4) Mosinee Paper Mills Cy; FR 2016071 A 1970 HCAPLUS

IT **9002-98-6**, Polyethylenimine **9011-05-6**, Urea resin
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mulch paper impregnates; enzymic acceleration of degrdn. of mulch paper)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

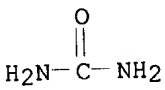
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 9011-05-6 HCAPLUS
CN Urea, polymer with formaldehyde (9CI) (CA INDEX NAME)

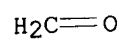
CM 1

CRN 57-13-6
CMF C H4 N2 O



CM 2

CRN 50-00-0
CMF C H2 O



L90 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:65304 HCAPLUS

DN 134:267926
TI The effect of converting from 100% OCC to 50% OCC:50% NSSC on retention and drainage in a closed-cycle paperboard mill
AU Polverari, Marco; Allen, Larry H.; Sithole, Bruce; Gagnon, Pierre; Samuel, Jean-Francois
CS Paprican, Pointe Claire, QC, H9R 3J9, Can.
SO Tappi Journal (2001), 84(1), 99
CODEN: TAJODT; ISSN: 0734-1415
PB TAPPI
DT Journal
LA English
CC 43-6 (Cellulose, Lignin, **Paper**, and Other Wood Products)
AB Retention and drainage characteristics and handsheet properties for a 50% NSSC:50% OCC furnish were compared to those obtained for a 100% OCC furnish (OCC = old corrugated cardboard, NSSC = neutral sulfite semi-chem.). Different retention and drainage aid systems (e.g., chitosan, linear poly(ethylene oxide) (PEO), **cationic** polyacrylamide, bentonite clay, branched polybisphenol resin, branched polyethyleneimine, and colloidal SiO2) commonly used in paperboard manuf. were investigated to det. effects on the pulp properties from such furnishes. Board quality was assessed by measuring handsheet phys. properties (Concora, ring crush, breaking length, stretch, TEA index, and Scott bond). Retention and drainage properties assessed were the free drainage rate, the vacuum drainage rate, the consistency after vacuum, and the first pass retention with mat formation. PEO in combination with a phenolic resin cofactor resulted in the best overall efficiency for conversion from 100% OCC to 50/50 OCC/NSSC in terms of drainage and retention closely followed by chitosan. The system improved first pass retention of fines, vacuum drainage rate, free drainage rate, and consistency (dryness) after vacuum. In a 50/50 OCC/NSSC furnish, the increase in **cationic** demand tends to result in a poorer performance of **cationic** polyacrylamide polymers. The best performing chemistries for 100% OCC were microparticle systems.
ST drainage retention aid corrugated cardboard pulping; paperboard property recycled cardboard sulfite pulp
IT Clays, uses
RL: NUU (Other use, unclassified); USES (Uses)
(bentonitic; retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)
IT Paperboard
(corrugated; retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)
IT Cellulose pulp
(recycled; retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)
IT Paperboard
(retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)
IT Phenolic resins, uses
Polyamines
Polyoxyalkylenes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)
IT Cellulose pulp
(semichem., sulfite; retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)
IT Cellulose pulp
(sulfite, semichem.; retention and drainage in closed-cycle paperboard

mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)

IT 7631-86-9, Silica, uses
RL: NUU (Other use, unclassified); USES (Uses)
(colloidal; retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)

IT **9002-98-6** 9003-05-8D, Polyacrylamide, **cationic**
9012-76-4, Chitosan **25322-68-3**, Poly(ethylene oxide)
26062-79-3, Poly(diallyldimethylammonium chloride)
RL: NUU (Other use, unclassified); USES (Uses)
(retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; TAPPI Useful Method UM256
(2) Anonymous; US EPA-821-R-93-014 1993, P6
(3) Barton, D; TAPPI J 1996, V79(3), P191 HCAPLUS
(4) Beaudoin, R; Preprints 84th Annual Meeting CPPA 1998, P293
(5) Evans, J; Pulp Pap 1981, V55(17), P98
(6) Laleg, M; Nordic Pulp Pap Res J 1991, V6(3), P99 HCAPLUS
(7) Laleg, M; Nordic Pulp Pap Res J 1992, V7(4), P174 HCAPLUS
(8) MacLeod, M; Pulp Pap 1974, V48(11), P116
(9) Ramamurthy, P; Proceedings 1996 TAPPI Minimum Effluent Mills Symposium P335
(10) Rousseau, S; Pulp Pap Can 1996, V97(9), P57 HCAPLUS
(11) Scallan, A; Svensk Papperstidn 1972, V75(17), P699 HCAPLUS
(12) van de Ven, T; J Pulp Pap Sci 1996, V22(7), PJ257-263
(13) Wearing, J; J Pulp Pap Sci 1985, V11(4), PJ113-121
(14) Yaraskavitch, I; J Pulp Pap Sci 1990, V16(3), PJ87-93 HCAPLUS
(15) Young, J; Pulp Pap 1994, V68(11), P105

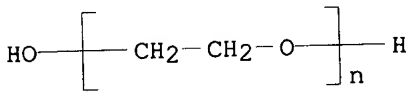
IT **9002-98-6 25322-68-3**, Poly(ethylene oxide)
26062-79-3, Poly(diallyldimethylammonium chloride)
RL: NUU (Other use, unclassified); USES (Uses)
(retention and drainage in closed-cycle paperboard mill processing old corrugated cardboard or neutral sulfite semi-chem. pulp)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)

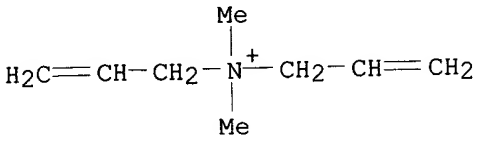


RN 26062-79-3 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer

(9CI) (CA INDEX NAME)

CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



● Cl⁻

L90 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:314898 HCAPLUS
DN 132:323200
TI Modified **cationic** polymers for use in paper production
IN Decker, Jurgen; Mahr, Norbert; Esser, Anton; Meixner, Hubert; Dyllick-Brenzinger, Rainer; Aus Dem Kahmen, Martin; Gercke, Martin
PA Basf Aktiengesellschaft, Germany
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM D21H021-02
ICS D21H017-45; D21H017-54; C08F008-00; C08G073-02; C08J003-24
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000026468	A1	20000511	WO 1999-EP8265	19991029
	W: CA, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19850817	A1	20000511	DE 1998-19850817	19981104
	EP 1141483	A1	20011010	EP 1999-955916	19991029
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002529612	T2	20020910	JP 2000-579834	19991029
PRAI	DE 1998-19850817	A	19981104		
	WO 1999-EP8265	W	19991029		

OS MARPAT 132:323200
AB The title polymers, useful as fixing agents for paper, are prepd. by the reaction of H2O-sol. polymers bearing NH groups with bifunctional C.gtoreq.8 compds. bearing **halohydrin**, **epoxide**, CO2H, **chloroformate** or **NCO** groups or **halogen** atoms. Stirring 860 g 25% aq. polyethylenimine (mol. wt. 750,000) with 7.03 g Me(CH2)nCH[O(CH2CH2O)10CH2CH(OH)CH2Cl]CH2O(CH2CH2O)10CH2CH(OH)CH2Cl at 60.degree. for 2 h gave a light yellow, cloudy soln. with viscosity 460 mPa-s at 23.degree.. Use of this soln. as a fixing agent for stickies in paper prodn. is exemplified.
ST **cationic** polymer fixing agent paper; polyethylenimine adduct polyoxyethylene **chlorohydrin**

IT Paper
(**cationic** polymers as fixing agents in paper prodn.)

IT **Polyoxyalkylenes**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**chlorohydrin**-terminated, alkyl derivs., reaction products with **polyamines**; modified **cationic** polymers for use in paper prodn.)

IT **Polyamines**
RL: TEM (Technical or engineered material use); USES (Uses)
(polyalkylene-, reaction products with adipic acid, ethylenimine and polyethylene glycol **bischlorohydrin**; modified **cationic** polymers for use in paper prodn.)

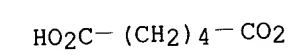
IT **124-04-9D**, Adipic acid, reaction products with **polyalkylenepolyamines**, ethylenimine and **polyethylene** glycol **bischlorohydrin 151-56-4D**, Ethylenimine, reaction products with **polyalkylenepolyamines**, adipic acid and **polyethylene** glycol **bischlorohydrin 9002-98-6D**, Polyethylenimine, reaction products with **polyethylene** glycol **bischlorohydrin 25322-68-3D**, **Polyethylene** glycol, **chlorohydrin**-terminated, alkyl derivs., reaction products with **polyamines 72018-12-3D**, Poly(N-vinylformamide), sapond., reaction products with **polyethylene** glycol **bischlorohydrin**
RL: TEM (Technical or engineered material use); USES (Uses)
(modified **cationic** polymers for use in paper prodn.)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Basf Ag; DE 19719059 A 1998 HCAPLUS
(2) Dyllick Brenzinger Rainer; WO 9725367 A 1997 HCAPLUS
(3) Holmes-Farley, S; US 5693675 A 1997 HCAPLUS
(4) Pinschmidt, R; US 5324787 A 1994 HCAPLUS
(5) Sanyo Chem Ind Ltd; JP 10-035090 A 1998 HCAPLUS
(6) Scherr, G; US 5536370 A 1996 HCAPLUS

IT **124-04-9D**, Adipic acid, reaction products with **polyalkylenepolyamines**, ethylenimine and **polyethylene** glycol **bischlorohydrin 151-56-4D**, Ethylenimine, reaction products with **polyalkylenepolyamines**, adipic acid and **polyethylene** glycol **bischlorohydrin 9002-98-6D**, Polyethylenimine, reaction products with **polyethylene** glycol **bischlorohydrin 25322-68-3D**, **Polyethylene** glycol, **chlorohydrin**-terminated, alkyl derivs., reaction products with **polyamines 72018-12-3D**, Poly(N-vinylformamide), sapond., reaction products with **polyethylene** glycol **bischlorohydrin**
RL: TEM (Technical or engineered material use); USES (Uses)
(modified **cationic** polymers for use in paper prodn.)

RN 124-04-9 HCAPLUS
CN Hexanedioic acid (9CI) (CA INDEX NAME)



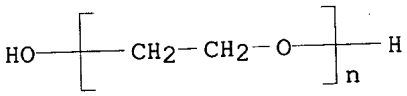
RN 151-56-4 HCAPLUS
CN Aziridine (9CI) (CA INDEX NAME)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

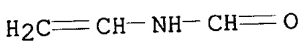
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 72018-12-3 HCAPLUS
CN Formamide, N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 13162-05-5
CMF C3 H5 N O



L90 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:144921 HCAPLUS
DN 132:182229
TI Dialdehyde-modified anionic and amphoteric polyacrylamides for improving strength of paper
IN Geer, Richard Perlee; Staib, Ronald Richard
PA Hercules Incorporated, USA
SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C08F008-28
ICS D21H017-38
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI WO 2000011046 A1 20000302 WO 1999-US18706 19990813
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
AU 9954899 A1 20000314 AU 1999-54899 19990813
PRAI US 1998-136855 A 19980819
WO 1999-US18706 W 19990813

AB The title compn. comprises crosslinked, thermosetting, water sol. polymer having nonionic moieties derived from acrylamide, methacrylamide or both; anionic moieties derived from .alpha.,.beta.-unsatd. **carboxylic** acids having from 3 to 5 carbon atoms and salts thereof; and optionally **cationic** moieties derived from unsatd. monomers contg. amino groups or quaternary ammonium groups, the polymer having aldehyde functionality. The polymers are useful as wet strength agents for paper.

ST wet strength agent paper glyoxal crosslinked acrylamide polymer

IT Paper
(dialdehyde-modified anionic and amphoteric polyacrylamides for improving strength of paper)

IT **Polyamines**
RL: TEM (Technical or engineered material use); USES (Uses)
(dialdehyde-modified anionic and amphoteric polyacrylamides for improving strength of paper)

IT **Polyamines**
Polyamines
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide-, reaction products with **epichlorohydrin**; dialdehyde-modified anionic and amphoteric polyacrylamides for improving strength of paper)

IT Polyamides, uses
Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polyamine-**, reaction products with **epichlorohydrin** ; dialdehyde-modified anionic and amphoteric polyacrylamides for improving strength of paper)

IT 9005-25-8, Starch, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**cationic**; dialdehyde-modified anionic and amphoteric polyacrylamides for improving strength of paper)

IT **9002-98-6 25085-20-5D**, Adipic acid-diethylenetriamine copolymer, reaction products with **epichlorohydrin** 59680-46-5, Kymene 557H **201945-45-1**, Acrylamide-acrylic acid-diallyldimethylammonium chloride-glyoxal copolymer **259544-46-2**, Acrylamide-acrylic acid-glyoxal-methylenebisacrylamide copolymer **259544-47-3 259544-48-4 259544-49-5**, Acrylamide-methacrylic acid-glyoxal copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(dialdehyde-modified anionic and amphoteric polyacrylamides for improving strength of paper)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Cassella, A; EP 0678528 A 1995 HCAPLUS
(2) Cosper, D; US 4135969 A 1979 HCAPLUS
(3) Dauplaise, D; US 4954538 A 1990 HCAPLUS
(4) Falgiatore, D; US 4199643 A 1980 HCAPLUS

(5) Hercules Incorporated; WO 9806898 A 1998 HCAPLUS
(6) Jansma, R; US 5401810 A 1995 HCAPLUS
(7) Mitsubishi Chem Ind Ltd; JP 55132800 A 1980 HCAPLUS
(8) National Diagnostics; WO 9302115 A 1993 HCAPLUS
(9) Showa Denko KK; JP 58-023994 A 1983 HCAPLUS
IT **9002-98-6 25085-20-5D**, Adipic acid-diethylenetriamine copolymer, reaction products with **epichlorohydrin 201945-45-1**, Acrylamide-acrylic acid-diallyldimethylammonium chloride-glyoxal copolymer **259544-46-2**, Acrylamide-acrylic acid-glyoxal-methylenebisacrylamide copolymer **259544-47-3 259544-48-4 259544-49-5**, Acrylamide-methacrylic acid-glyoxal copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(dialdehyde-modified anionic and amphoteric polyacrylamides for improving strength of paper)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

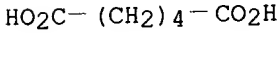
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 25085-20-5 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine (9CI) (CA INDEX NAME)

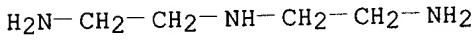
CM 1

CRN 124-04-9
CMF C6 H10 O4



CM 2

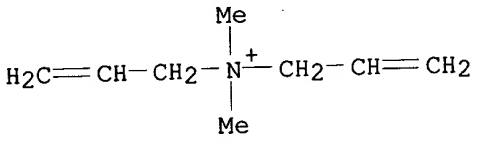
CRN 111-40-0
CMF C4 H13 N3



RN 201945-45-1 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, polymer with ethanedial, 2-propenamide and 2-propenoic acid (9CI) (CA INDEX NAME)

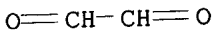
CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



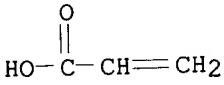
CM 2

CRN 107-22-2
CMF C2 H2 O2



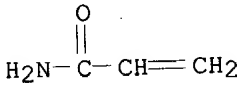
CM 3

CRN 79-10-7
CMF C3 H4 O2



CM 4

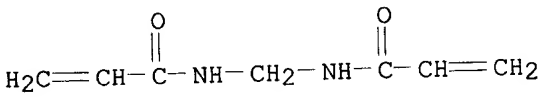
CRN 79-06-1
CMF C3 H5 N O



RN 259544-46-2 HCAPLUS
CN 2-Propenoic acid, polymer with ethanedial, N,N'-methylenebis[2-propenamide] and 2-propenamide (9CI) (CA INDEX NAME)

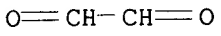
CM 1

CRN 110-26-9
CMF C7 H10 N2 O2



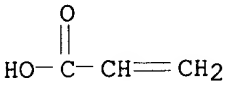
CM 2

CRN 107-22-2
CMF C2 H2 O2



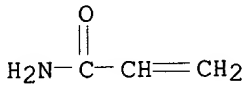
CM 3

CRN 79-10-7
CMF C3 H4 O2



CM 4

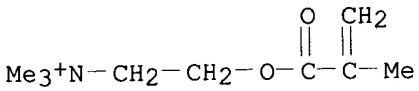
CRN 79-06-1
CMF C3 H5 N O

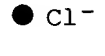


RN 259544-47-3 HCAPLUS
CN Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with ethanedial, 2-propenamide and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 5039-78-1
CMF C9 H18 N O2 . Cl

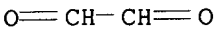




CM 2

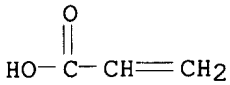
CRN 107-22-2

CMF C2 H2 O2



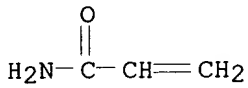
CM 3

CRN 79-10-7
CMF C3 H4 O2



CM 4

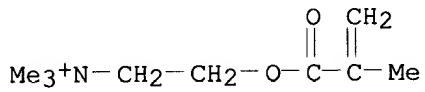
CRN 79-06-1
CMF C3 H5 N O



RN 259544-48-4 HCAPLUS
CN Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with ethanedial, methylenebutanedioic acid and 2-propenamide (9CI) (CA INDEX NAME)

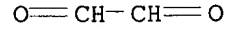
CM 1

CRN 5039-78-1
CMF C9 H18 N O2 . Cl



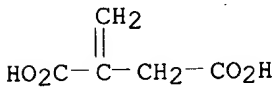
CM 2

CRN 107-22-2
CMF C2 H2 O2



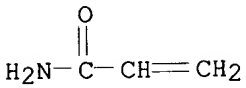
CM 3

CRN 97-65-4
CMF C5 H6 O4



CM 4

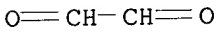
CRN 79-06-1
CMF C3 H5 N O



RN 259544-49-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with ethanedial and 2-propenamide (9CI) (CA INDEX NAME)

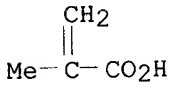
CM 1

CRN 107-22-2
CMF C2 H2 O2



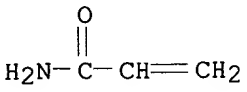
CM 2

CRN 79-41-4
CMF C4 H6 O2



CM 3

CRN 79-06-1
CMF C3 H5 N O



L90 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:15628 HCAPLUS
DN 132:79938
TI Aqueous adhesive dispersions for the production of paper laminates
IN Werres, Joachim; Reinhardt, Bernd; Rienaecker, Klaus
PA Stockhausen G.m.b.H. und Co. K.-G., Germany
SO Ger. Offen., 12 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C09J103-04
ICS C09J101-26; C09J105-00; C09J129-04; D21H021-16; D21H017-20; D21H017-24
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 19829757	A1	20000105	DE 1998-19829757	19980703
WO 2000001783	A2	20000113	WO 1999-EP4542	19990701
WO 2000001783	A3	20010607		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9949038	A1	20000124	AU 1999-49038	19990701
BR 9911797	A	20010327	BR 1999-11797	19990701
EP 1144530	A2	20011017	EP 1999-932771	19990701
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002519501	T2	20020702	JP 2000-558176	19990701
NO 2001000018	A	20010209	NO 2001-18	20010102
PRAI DE 1998-19829757	A	19980703		
WO 1999-EP4542	W	19990701		

AB The title adhesives, giving greater bond strength, contain 0.1-10% dispersions of adhesive polymers, 0.1-100 phr anionic or **cationic** polyelectrolytes, and 0-50 phr polyalkylene glycol with mol. wt. 200-100,000. A dispersion of anionic starch (Retamyl AP) contg. 6 phr **cationic** polymer (Praestafix HH) was used (6% based on paper) at 40-45.degree. to bond a special laminated paper with quire strength 1900 N/cm and layer strength 1640 N/cm.
ST adhesive aq lamination paper; anionic starch adhesive paper; **cationic** polymer adhesive paper; polyelectrolyte adhesive lamination paper
IT Lamination
Paper
Polyelectrolytes
(aq. adhesive dispersions for the prodn. of paper laminates)
IT Aminoplasts

Polyoxyalkylenes, uses
Polysaccharides, uses
Proteins, general, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(aq. adhesive dispersions for the prodn. of paper laminates)

IT **Polyoxyalkylenes**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(diols; aq. adhesive dispersions for the prodn. of paper laminates)

IT **Polyamines**
Polyamines
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide-, reaction products with **epichlorohydrin**; aq. adhesive dispersions for the prodn. of paper laminates)

IT Polyamides, uses
Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polyamine-**, reaction products with **epichlorohydrin** ; aq. adhesive dispersions for the prodn. of paper laminates)

IT Adhesives
(water-thinned; aq. adhesive dispersions for the prodn. of paper laminates)

IT 106-89-8D, **Epichlorohydrin**, reaction products with polyamide-**polyamines** 9000-30-0, Guar gum 9002-89-5 **9002-98-6**, Polyethylenimine 9003-08-1, Madurit MW 114 9004-34-6D, Cellulose, ethers, uses 9005-25-8D, Starch, anionic and **cationic** derivs., uses 9005-32-7D, Alginic acid, salts 11120-02-8, Retamyl AP 25085-02-3, Acrylamide-sodium acrylate copolymer **25322-68-3** **26336-38-9**, Poly(vinylamine) 89126-80-7, Polymin SK 149659-05-2, Cartafix DPR 252663-01-7, Aniofax AP 25 253602-30-1, Praestafix HH 253602-73-2, A 6309 253602-77-6, Emcat C 12 253602-80-1, Walocel XC 3.000G 253602-87-8, Polyglycol 10000S 253602-95-8, Giluton 1100-28N
RL: TEM (Technical or engineered material use); USES (Uses)
(aq. adhesive dispersions for the prodn. of paper laminates)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; DD 226581 A1 HCAPLUS
(2) Anon; WO 9711226 A1 HCAPLUS

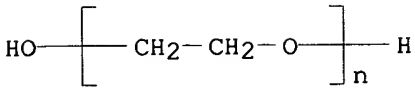
IT **9002-98-6**, Polyethylenimine **25322-68-3**
26336-38-9, Poly(vinylamine)
RL: TEM (Technical or engineered material use); USES (Uses)
(aq. adhesive dispersions for the prodn. of paper laminates)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

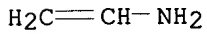
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 26336-38-9 HCAPLUS
CN Ethenamine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 593-67-9
CMF C2 H5 N



L90 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:384019 HCAPLUS
DN 131:20477
TI **Cationic** compounds useful as drainage aids and stabilizers for rosin-based sizing agents
IN Pudney, Ian A.; Stubbs, Brian M.; Welch, Malcolm J.
PA Hercules Incorporated, USA
SO U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 341,732, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM C08G069-48
NCL 525430000
CC 43-6 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 37
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5912306	A	19990615	US 1996-754355	19961122
	US 5393338	A	19950228	US 1992-998212	19921230
PRAI	US 1992-998212		19921230		
	US 1994-341732		19941118		
	GB 1991-27566		19911231		
	GB 1992-13604		19920626		

OS MARPAT 131:20477
AB The title compds. comprise the reaction product of a polyamine having secondary amine groups, a crosslinking agent, and a **cationizing** agent having an **epoxide** group and a tertiary or quaternary amine (quaternary ammonium) group. Thus, a compd. was prepd. from a reaction product of adipic acid with diethylenetriamine, **epichlorohydrin**, and glycidyltrimethylammonium chloride.
ST drainage aid stabilizer rosin size; adipic acid diethylenetriamine **epichlorohydrin** glycidyltrimethylammonium chloride copolymer
IT **Epoxides**
RL: MOA (Modifier or additive use); USES (Uses)
(bis-, crosslinking agents; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)
IT Crosslinking agents
Dispersion (of materials)
Paper

Sizes (agents)
Stabilizing agents
(**cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT Rosin
RL: TEM (Technical or engineered material use); USES (Uses)
(**cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT Polyelectrolytes
(**cationic**; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT Alkadienes
Glycols, uses
Halohydrins
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agents; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT Alkanes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(dihalides, crosslinking agents; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT Ethers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(dihalogen-, crosslinking agents; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT **Halohydrins**
RL: MOA (Modifier or additive use); USES (Uses)
(**epihalohydrins**, crosslinking agents; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT **Carboxylic** acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(halo-,crosslinking agents; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT **Polyamines**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyalkylene-, crosslinked, reaction products with quaternary ammonium compds.; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT **Polyamines**
Polyamines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-, crosslinked, reaction products with quaternary ammonium compds.; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT Polyamides, uses
Polyamides, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**polyamine-**, crosslinked, reaction products with quaternary ammonium compds.; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT Quaternary ammonium compounds, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reaction products with crosslinked **polyamines**; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT Tall oil rosin
RL: TEM (Technical or engineered material use); USES (Uses)
(reaction products with fumaric acid; **cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT **226716-90-1P**, Adipic acid-diethylenetriamine-**epichlorohydrin**-glycidyltrimethylammonium chloride copolymer **226716-91-2P**, Adipic acid-diethylenetriamine-**epichlorohydrin**-glycidyl N,N-dimethylcyclohexylammonium chloride copolymer **226716-92-3P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

IT 108-31-6D, Maleic anhydride, reaction products with rosin 110-17-8D, Fumaric acid, reaction products with rosin
RL: TEM (Technical or engineered material use); USES (Uses)
(**cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; EP 0156646 HCAPLUS
(2) Anon; EP 0208667 HCAPLUS
(3) Anon; EP 0259671 HCAPLUS
(4) Anon; DE 1570296
(5) Anon; GB 2159183 HCAPLUS
(6) Anon; JP 3294596
(7) Anon; JP 61-113898 HCAPLUS
(8) Anon; JP 79-87787 HCAPLUS
(9) Anon; FR 83-17449K/08
(10) Anon; FR 84-282316/46
(11) Anon; GB 1266829 1972
(12) Carioti; US 4808668 1989 HCAPLUS
(13) Chan; US 4722964 1988 HCAPLUS
(14) De Young; US 3186900 1965 HCAPLUS
(15) Falkenberg; US 3718639 1973 HCAPLUS
(16) Helmer; US 4743303 1988 HCAPLUS
(17) Hoppe; US 4036821 1977 HCAPLUS
(18) Hoppe; US 4052259 1977 HCAPLUS
(19) Hoppe; US 4093605 1978
(20) Keim; US 2926116 1960 HCAPLUS
(21) Keim; US 2929154 1960
(22) Marans; US 4614762 1986 HCAPLUS
(23) Mather; US 3632559 1972
(24) Mills; US 3347832 1967 HCAPLUS
(25) Scharf; US 4144123 1979
(26) Schultz; US 4983257 1991 HCAPLUS
(27) Stober; US 4758282 1988 HCAPLUS
(28) Stober; US 4785087 1988 HCAPLUS
(29) Stober; US 4812257 1989 HCAPLUS
(30) Stober; US 4822851 1989 HCAPLUS
(31) Walkden; US 4927496 1990 HCAPLUS
(32) Weaver; US 5278255 1994 HCAPLUS
(33) Weaver; US 5373087 1994 HCAPLUS

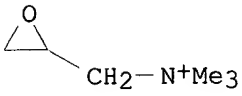
IT **226716-90-1P**, Adipic acid-diethylenetriamine-**epichlorohydrin**-glycidyltrimethylammonium chloride copolymer **226716-91-2P**, Adipic acid-diethylenetriamine-**epichlorohydrin**-glycidyl N,N-dimethylcyclohexylammonium chloride copolymer **226716-92-3P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**cationic** compds. useful as drainage aids and stabilizers for rosin-based sizing agents)

RN 226716-90-1 HCAPLUS
CN Oxiranemethanaminium, N,N,N-trimethyl-, chloride, polymer with N-(2-aminoethyl)-1,2-ethanediamine, (chloromethyl)oxirane and hexanedioic acid (9CI) (CA INDEX NAME)

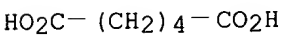
CM 1

CRN 3033-77-0
CMF C6 H14 N O . Cl



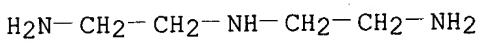
CM 2

CRN 124-04-9
CMF C6 H10 O4



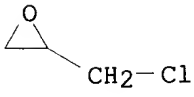
CM 3

CRN 111-40-0
CMF C4 H13 N3



CM 4

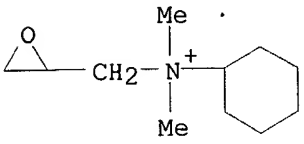
CRN 106-89-8
CMF C3 H5 Cl O



RN 226716-91-2 HCAPLUS
CN Oxiranemethanaminium, N-cyclohexyl-N,N-dimethyl-, chloride, polymer with N-(2-aminoethyl)-1,2-ethanediamine, (chloromethyl)oxirane and hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 37003-88-6
CMF C11 H22 N O . Cl



● Cl^-

CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

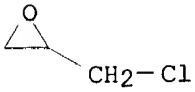
CM 3

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 4

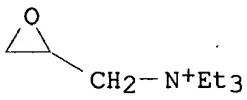
CRN 106-89-8
CMF C3 H5 Cl O



RN 226716-92-3 HCAPLUS
CN Oxiranemethanaminium, N,N,N-triethyl-, chloride, polymer with N-(2-aminoethyl)-1,2-ethanediamine, (chloromethyl)oxirane and hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 15876-88-7
CMF C9 H20 N O . Cl



● Cl^-

CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

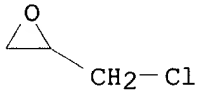
CM 3

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 4

CRN 106-89-8
CMF C3 H5 Cl O



L90 ANSWER 9 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:442070 HCAPLUS
DN 129:150292
TI Procedure for production of paper
IN Auhorn, Werner; Moench, Dietmar; Scholz, Rainer; Blum, Rainer; Meixner, Hubert; Dyllick-Brenzinger, Rainer
PA BASF A.-G., Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM D21F001-08
ICS D21H023-24; D21H021-10; D21H017-54; D21H017-37
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	DE 19654390	A1	19980702	DE 1996-19654390	19961227
	WO 9829603	A1	19980709	WO 1997-EP6857	19971209
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 948677	A1	19991013	EP 1997-952902	19971209
	EP 948677	B1	20000830		
	R: AT, CH, DE, ES, FR, GB, IT, LI, NL, SE, PT, FI				
	AT 195985	E	20000915	AT 1997-952902	19971209
	ES 2151296	T3	20001216	ES 1997-952902	19971209
	JP 2001508137	T2	20010619	JP 1998-529571	19971209
	US 6083348	A	20000704	US 1999-147582	19990127
PRAI	DE 1996-19654390	A	19961227		
	WO 1997-EP6857	W	19971209		

AB Paper with good structure and even distribution of fillers is produced by feeding the paper stock contg. 65-95% processing chems. from the headbox onto the sieve and feeding the residual 5-35% of the processing chems. in a stream of white water, which is fed onto the sieve from a position above the outlet from the headbox. The processing chems. are fixing agents, dewatering agents, retention agents, and flocculation agents, eventually mixed with bentonite and/or silicic acid, dyes, sizing agents, and strengthening agents. Thus, a supercalandered paper was manufd. from a paper stock contg. groundwood 35, deinked wastepaper 17, sulfate pulp 19, and kaolin 25 parts. A paper machine with a Module Jet headbox,which allows sectional consistency and flow-quantity adjustments, was used. The main paper stock flow contained 0.29% of a crosslinked adipic acid-diethylenetriamine-ethyleneimine-polyethylene glycol diglycidyl ether copolymer (I), whereas the recycled white water contained 0.03% I. A **cationic** acrylic copolymer was also added in the amt. of 0.024 through the Module Jet headbox behind the vertical sorters. The obtained paper showed good structure, good filler retention, and even ash content distribution across the sheet.

ST paper manuf processing additive flow arrangement

IT Flocculants
(arrangement of paper stock and processing additive flows onto the paper machine)

IT Paper
(arrangement of paper stock and processing additive flows onto the paper machine in manuf. of)

IT **Polyamines**
RL: TEM (Technical or engineered material use); USES (Uses)
(crosslinked; arrangement of paper stock and processing additive flows onto the paper machine)

IT Drying
(dewatering, agents; arrangement of paper stock and processing additive flows onto the paper machine)

IT **Polyoxyalkylenes**, uses
Polyoxyalkylenes, uses
Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide-**polyamine**-, crosslinked; arrangement of paper stock and processing additive flows onto the paper machine)

IT **Polyamines**
Polyamines
Polyamines
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide-**polyoxyalkylene**-, crosslinked; arrangement of paper stock and processing additive flows onto the paper machine)

IT Polyamides, uses
Polyamides, uses

Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polyamine-polyoxyalkylene-**, crosslinked;
arrangement of paper stock and processing additive flows onto the paper machine)

IT 99015-86-8
RL: TEM (Technical or engineered material use); USES (Uses)
(arrangement of paper stock and processing additive flows onto the paper machine)

IT **9002-98-6 193149-63-2**, Adipic acid-diethylenetriamine-ethyleneimine-polyethylene glycol diglycidyl ether copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(crosslinked; arrangement of paper stock and processing additive flows onto the paper machine)

IT **9002-98-6 193149-63-2**, Adipic acid-diethylenetriamine-ethyleneimine-polyethylene glycol diglycidyl ether copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(crosslinked; arrangement of paper stock and processing additive flows onto the paper machine)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

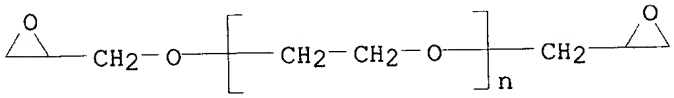
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 193149-63-2 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, aziridine and .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26403-72-5
CMF (C2 H4 O)n C6 H10 O3
CCI PMS

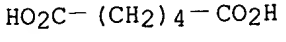


CM 2

CRN 151-56-4
CMF C2 H5 N

CM 3

CRN 124-04-9
CMF C6 H10 O4



CM 4

CRN 111-40-0
CMF C4 H13 N3

L90 ANSWER 10 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:277582 HCAPLUS
DN 128:296067
TI Method of retention aid addition for improved paperboard production
IN Surface, Thomas G.; Noe, Jeffrey S.; Weatherman, David J.
PA Nalco Chemical Company, USA
SO Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM D21H023-04
ICS D21H021-10
ICI D21H017-01
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 838550	A2	19980429	EP 1997-308439	19971023
	EP 838550	A3	19990804		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 9741885	A1	19980430	AU 1997-41885	19971016
	NO 9704871	A	19980427	NO 1997-4871	19971022
	CA 2219332	AA	19980425	CA 1997-2219332	19971024
PRAI	US 1996-738450		19961025		

AB A method for manufg. paperboard contg. no inorg. filler is provided. Pulp fines from the white water system and retention agents are mixed and then fed to the stock upstream of the paper machine prior to blending with the long fiber stock. Once flocculation takes place, the stock is drained to form a sheet and the sheet is dried.
ST retention aid paperboard prodn; **cationic** flocculant paperboard prodn; acrylamide copolymer retention aid paperboard
IT Flocculants

(**cationic**; method of retention aid addn. for improved paperboard prodn.)

IT Paperboard
(method of retention aid addn. for improved paperboard prodn.)

IT Cellulose pulp
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(method of retention aid addn. for improved paperboard prodn.)

IT **Polyamines**
Polyamines
RL: MOA (Modifier or additive use); USES (Uses)
(polyamide-, retention aid; method of retention aid addn. for improved paperboard prodn.)

IT Polyamides, uses
Polyamides, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**polyamine-**, retention aid; method of retention aid addn. for improved paperboard prodn.)

IT Amines, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reaction products, with ethylene dichloride, retention aid; method of retention aid addn. for improved paperboard prodn.)

IT Bentonite, uses
Phenolic resins, uses
Polyamides, uses
Polyoxyalkylenes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(retention aid; method of retention aid addn. for improved paperboard prodn.)

IT Clays, uses
RL: MOA (Modifier or additive use); USES (Uses)
(smectitic, retention aid; method of retention aid addn. for improved paperboard prodn.)

IT 206203-25-0, Nalco 7523
RL: MOA (Modifier or additive use); USES (Uses)
(method of retention aid addn. for improved paperboard prodn.)

IT 9002-88-4, Polyethylene 9003-53-6D, Polystyrene, **cationic** derivs.
RL: MOA (Modifier or additive use); USES (Uses)
(modified, retention aid; method of retention aid addn. for improved paperboard prodn.)

IT 79-06-1D, 2-Propenamide, polymers, uses 107-06-2D, reaction products with amines 1327-41-9, Polyaluminum chloride 7398-69-8, DADMAC 7631-86-9, Colloidal silica, uses **9002-98-6** 9003-05-8, Polyacrylamide 9003-35-4, Formaldehyde-phenol copolymer 9005-25-8, Starch, uses 10043-01-3, Alum 11138-49-1, Sodium aluminate **25322-68-3** 25988-97-0
RL: MOA (Modifier or additive use); USES (Uses)
(retention aid; method of retention aid addn. for improved paperboard prodn.)

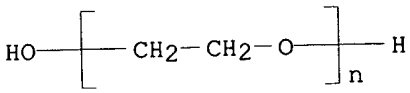
IT **9002-98-6 25322-68-3**
RL: MOA (Modifier or additive use); USES (Uses)
(retention aid; method of retention aid addn. for improved paperboard prodn.)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



L90 ANSWER 11 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:764267 HCAPLUS
DN 128:14273
TI A modern chemical approach to improving paper machine efficiencies in OCC containing liner and medium grades
AU Tyler, Sean; Lewis, Chris
CS BASF Dispersions And Paper Process Chemicals, Vancouver, WA, 98684, USA
SO Recycling Symposium, Chicago, Apr. 14-16, 1997 (1997), 527-532 Publisher: TAPPI Press, Atlanta, Ga.
CODEN: 65HQAO
DT Conference
LA English
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
AB With increasing environmental pressures, mills are forced into higher levels of system closure and greater utilization of secondary fiber resources. New technologies for retention and drainage programs are necessary to handle the accompanying higher levels of interfering substances and anionic trash. Retention and drainage aid (RDA) programs, such as **cationic** polyacrylamides (PAM's), starch/alum, and PAM/coagulants, lose considerable efficiency as trash loading increases. A program, which provides a high fixing capacity to reduce these trash levels along with sufficient mol. wt. to achieve retention, is necessary. Use of an RDA system incorporating a high charge d. modified polyethylenimine can achieve these results. RDA programs employing an in-line blend of a modified polyethyleneimine and a **cationic** PAM have shown excellent results worldwide in a no. of liner board/medium applications. Mill examples have shown 2.0-9.5% increases in gross prodn. Other cases have demonstrated a 23% redn. in chem. costs (per ton) while maintaining prodn.
ST paper machine efficiency improvement chem approach; polyethyleneimine **cationic** polyacrylamide paper machine improvement
IT Paper
(application of modified polyethyleneimine-**cationic** polyacrylamide blend to improve paper machine efficiencies in old corrugated container-contg. liner and medium grades)
IT **Polyamines**
Polymer blends
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(application of modified polyethyleneimine-**cationic** polyacrylamide blend to improve paper machine efficiencies in old corrugated container-contg. liner and medium grades)

IT **9002-98-6D**, derivs. 9003-05-8D, Polyacrylamide, **cationic** derivs.
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(application of modified **polyethyleneimine-cationic** polyacrylamide blend to improve paper machine efficiencies in old corrugated container-contg. liner and medium grades)

IT **9002-98-6D**, derivs.
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(application of modified **polyethyleneimine-cationic** polyacrylamide blend to improve paper machine efficiencies in old corrugated container-contg. liner and medium grades)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L90 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:570976 HCAPLUS
DN 127:207186
TI Production of filled paper and compositions for use in this
IN Cauley, Thomas; Evans, Bruce; Satterfield, Brian Frederic
PA Allied Colloids Limited, UK; Minerals Technologies Inc.; Cauley, Thomas; Evans, Bruce; Satterfield, Brian Frederic
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM D21H023-76
ICS D21H017-67
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9730222	A1	19970821	WO 1997-GB391	19970212
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2180372	AA	19970814	CA 1996-2180372	19960702
AU 9717997	A1	19970902	AU 1997-17997	19970212
AU 716756	B2	20000309		
EP 880620	A1	19981202	EP 1997-903443	19970212
EP 880620	B1	20020828		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				

	CN 1208447	A	19990217	CN 1997-191700	19970212
	CN 1088777	B	20020807		
	BR 9706816	A	19990323	BR 1997-6816	19970212
	JP 2000504794	T2	20000418	JP 1997-529089	19970212
	ZA 9701225	A	19980216	ZA 1997-1225	19970213
	NO 9802266	A	19980812	NO 1998-2266	19980518
PRAI	US 1996-600579	A	19960213		
	WO 1997-GB391	W	19970212		

AB Filled paper is made by adding an amt. of **cationic** polymer (**cationic** starch) to pptd. calcium carbonate or other filler either as a slurry or in a thick stock component, producing a thin stock contg. the **cationized** filler and then treating the thin stock with a formaldehyde resin [copolymer of formaldehyde and a compd. contg. di(hydroxyphenyl)sulfone group] and polyethylene oxide as a retention system prior to drainage and drying.

ST **cationic** starch pptd calcium carboante paper; retention agent polyethylene oxide paper; formaldehyde copolymer retention paper filler

IT **Polyamines**
RL: MOA (Modifier or additive use); USES (Uses)
(**cationic** polymers; prodn. of filled paper and compns. for use in this)

IT Polyelectrolytes
(**cationic**; prodn. of filled paper and compns. for use in this)

IT Cellulose pulp
(mech.; prodn. of filled paper and compns. for use in this)

IT Paper
(prodn. of filled paper and compns. for use in this)

IT **Polyoxyalkylenes**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(prodn. of filled paper and compns. for use in this)

IT 79-06-1D, Acrylamide, copolymers with acrylate derivs. 79-10-7D, Acrylic acid, dialkyaminoalkyl derivs., copolymers 7398-69-8D, Diallyldimethylammonium chloride, copolymers with acrylate derivs. **9002-98-6 26590-05-6**, Diallyldimethylammonium chloride-acrylamide copolymer **26913-06-4**, Poly[imino(1,2-ethanediyl)]
RL: MOA (Modifier or additive use); USES (Uses)
(**cationic** polymers; prodn. of filled paper and compns. for use in this)

IT 461-58-5D, Dicyandiamide, polymers
RL: MSC (Miscellaneous)
(**cationic** polymers; prodn. of filled paper and compns. for use in this)

IT 9005-25-8, Starch, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**cationic**; prodn. of filled paper and compns. for use in this)

IT 471-34-1, Calcium carbonate, miscellaneous
RL: MSC (Miscellaneous)
(pptd of; prodn. of filled paper and compns. for use in this)

IT **25322-68-3**, Polyethylene oxide
RL: MOA (Modifier or additive use); USES (Uses)
(prodn. of filled paper and compns. for use in this)

IT 50-00-0D, Formaldehyde, copolymers, miscellaneous 98-67-9D, p-Phenolsulfonic acid, derivs., polymers
RL: MSC (Miscellaneous)
(retention agents; prodn. of filled paper and compns. for use in this)

IT **9002-98-6 26590-05-6**, Diallyldimethylammonium chloride-acrylamide copolymer **26913-06-4**, Poly[imino(1,2-

ethanediyl)]
RL: MOA (Modifier or additive use); USES (Uses)
(**cationic** polymers; prodn. of filled paper and compns. for use in this)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

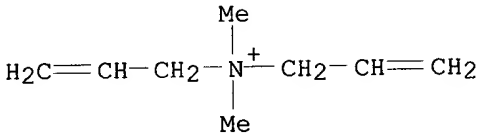
CM 1

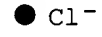
CRN 151-56-4
CMF C2 H5 N

RN 26590-05-6 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, polymer with 2-propenamide (9CI) (CA INDEX NAME)

CM 1

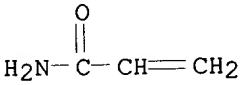
CRN 7398-69-8
CMF C8 H16 N . Cl



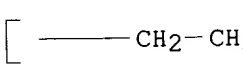


CM 2

CRN 79-06-1
CMF C3 H5 N O

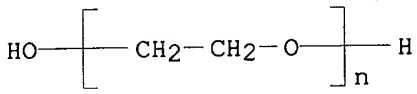


RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



IT **25322-68-3,** Polyethylene oxide

RL: MOA (Modifier or additive use); USES (Uses)
(prodn. of filled paper and compns. for use in this)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



L90 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:340711 HCAPLUS
DN 126:306484
TI Moisture-proof paper sheet
IN Yagi, Hisanori; Kawamukai, Takashi; Uchida, Hiromi; Mikado, Hideyuki; Koga, Shinichi
PA New Oji Paper Co., Ltd., Japan
SO Eur. Pat. Appl., 48 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM D21H021-20
ICS D21H019-40; D21H019-58; D21H019-62
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 42
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 764739	A2	19970326	EP 1996-115066	19960919
	EP 764739	A3	19990919		
	EP 764739	B1	20010124		
	R: DE, FR, GB				
	US 5695608	A	19971209	US 1996-715969	19960919
PRAI	JP 1995-244610	A	19950922		
	JP 1995-330251	A	19951219		
	JP 1996-41367	A	19960228		

AB A moisture-proof paper sheet comprises a moisture-proof coating layer formed on a paper sheet substrate and comprising (a) a moisture-proof, film-forming synthetic resin (**carboxyl**-modified SBR resin), (b) plate cryst. phyllosilicate compd. particles with an av. size of 5-50 .mu.m and an aspect ratio of .gtoreq.5 and (c) a moisture-proof enhancing agent (urea-formaldehyde condensate reaction products, organoalkoxysilane compds., or polyamide-polyurea compds.) has an enhanced resistance to water vapor permeation and, after use, the waste moisture-proof paper sheet can be easily repulped and recycled. Thus, a coating layer was prepd. from muscovite pigment (Mica A21), **carboxylic** acid-modified SBR latex (SBR LX 407S1X1) and sorbitol polyglycidyl ether (Deconal EX 614B).
ST recyclable muscovite pigment coating paper; urea copolymer coating paper recyclable; alkoxysilane polyamide polyurea coating paper; SBR latex coating paper water resistance; sorbitol polyglycidyl ether coating paper
IT Mica-group minerals, uses
RL: MOA (Modifier or additive use); USES (Uses)
(A 21, A 31, A 51, A 61, KF 1325, pigments; moisture-proof paper sheet)
IT Styrene-butadiene rubber, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(JSR-JO 569, Polylac 686A3; moisture-proof paper sheet)

IT Nitrile rubber, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(LX 550; moisture-proof paper sheet)
IT Styrene-butadiene rubber, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(carboxy-contg., LX 407S1X1; moisture-proof paper sheet)
IT Paper
(kraft; moisture-proof paper sheet)
IT Coupling agents
Dispersing agents
Paper
Pigments, nonbiological
Water-resistant materials
(moisture-proof paper sheet)
IT Aminoplasts
RL: TEM (Technical or engineered material use); USES (Uses)
(moisture-proof paper sheet)
IT Polyureas
Polyureas
Polyureas
RL: MOA (Modifier or additive use); USES (Uses)
(polyamide-**polyamine**-; moisture-proof paper sheet)
IT **Polyamines**
Polyamines
Polyamines
RL: MOA (Modifier or additive use); USES (Uses)
(polyamide-polyurea-; moisture-proof paper sheet)
IT Polyureas
Polyureas
RL: MOA (Modifier or additive use); USES (Uses)
(**polyamine**-; moisture-proof paper sheet)
IT Polyamides, uses
Polyamides, uses
Polyamides, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**polyamine**-polyurea-; moisture-proof paper sheet)
IT **Polyamines**
Polyamines
RL: MOA (Modifier or additive use); USES (Uses)
(polyurea-; moisture-proof paper sheet)
IT Coating materials
(water-resistant; moisture-proof paper sheet)
IT 122-19-0, **Cation** S
RL: MOA (Modifier or additive use); USES (Uses)
(**Cation** S; moisture-proof paper sheet)
IT **71228-86-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(Denacol EX 614B, moisture-proof enhancing agents; moisture-proof paper sheet)
IT 683-10-3, Betaine lauryldimethylaminoacetate
RL: MOA (Modifier or additive use); USES (Uses)
(Obazoline LB; moisture-proof paper sheet)
IT 6144-28-1D, reaction products with ethylenediamine
RL: MOA (Modifier or additive use); USES (Uses)
(Versamid; moisture-proof paper sheet)
IT **67953-56-4**, Bishexamethylenetriamine-**epichlorohydrin** condensate
RL: MOA (Modifier or additive use); USES (Uses)
(WS 500; moisture-proof paper sheet)
IT **67953-54-2**

RL: MOA (Modifier or additive use); USES (Uses)
(WS 515; moisture-proof paper sheet)

IT 39659-86-4, Zircosol AC 7
RL: MOA (Modifier or additive use); USES (Uses)
(Zircosol AC 7; moisture-proof paper sheet)

IT 1185-55-3 1760-24-3, KBM 603 2530-83-8 2530-85-0 2768-02-7
65380-84-9, KR 44 84431-92-5, AL-M
RL: MOA (Modifier or additive use); USES (Uses)
(coupling agents; moisture-proof paper sheet)

IT 147881-53-6, Carabon L 400
RL: MOA (Modifier or additive use); USES (Uses)
(dispersing agents; moisture-proof paper sheet)

IT 122-60-1 124-40-3, Dimethylamine, uses **25639-25-2**, Denacol EX
111 26249-20-7, Butylene oxide **54140-67-9**, Denacol EX 145
86630-59-3, Denacol EX 171
RL: MOA (Modifier or additive use); USES (Uses)
(moisture-proof enhancing agents; moisture-proof paper sheet)

IT 79-10-7D, 2-Propenoic acid, polymers, uses 107-15-3, 1,2-Ethanediamine, uses 108-45-2, 1,3-Benzenediamine, uses 111-86-4, Octylamine 112-24-3, Triethylenetetramine 123-75-1, Pyrrolidine, uses 280-57-9, Triethylenediamine 471-34-1, Calcium carbonate, uses 26603-36-1, Xylenediamine **54140-67-9** 72993-87-4, Sumirez 633 113349-13-6, Muscovite 134688-55-4, Sanmide 315H 166516-60-5, WS 535 168256-10-8, PA 622 184049-37-4, Plenact KR-ET 189283-99-6, EH 265 189284-04-6, PA 620 189284-15-9, Sumirez 632 189284-16-0, WS 564 189284-17-1, X 13A
RL: MOA (Modifier or additive use); USES (Uses)
(moisture-proof paper sheet)

IT 107-22-2, Glyoxal 14807-96-6, Talc (Mg3H2(SiO3)4), uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(moisture-proof paper sheet)

IT 25133-97-5, Ethyl acrylate-methacrylic acid-methyl methacrylate copolymer
RL: POF (Polymer in formulation); USES (Uses)
(moisture-proof paper sheet)

IT 95327-30-3, Aron A104
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(moisture-proof paper sheet)

IT 50-00-0D, Formaldehyde, condensate, uses 9003-08-1, U-Ramin P 6300 189284-14-8, Sumirez 302
RL: TEM (Technical or engineered material use); USES (Uses)
(moisture-proof paper sheet)

IT 9003-18-3
RL: TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, LX 550; moisture-proof paper sheet)

IT 12174-53-7, Sericite
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(pigment, Sericite ST; moisture-proof paper sheet)

IT 9010-93-9, Butadiene-methacrylic acid-styrene copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(rubber; moisture-proof paper sheet)

IT 9003-55-8
RL: TEM (Technical or engineered material use); USES (Uses)
(styrene-butadiene rubber, JSR-JO 569, Polylac 686A3; moisture-proof paper sheet)

IT 9003-55-8
RL: TEM (Technical or engineered material use); USES (Uses)
(styrene-butadiene rubber, carboxy-contg., LX 407S1X1; moisture-proof

paper sheet)

IT **71228-86-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(Denacol EX 614B, moisture-proof enhancing agents; moisture-proof paper sheet)

RN 71228-86-9 HCAPLUS

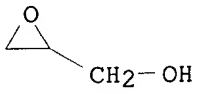
CN D-Glucitol, tetrakis-O-(oxiranylmethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 64055-71-6
CMF C18 H30 O10
CCI IDS

CM 2

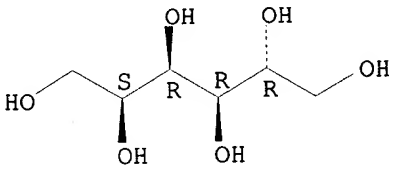
CRN 556-52-5
CMF C3 H6 O2



CM 3

CRN 50-70-4
CMF C6 H14 O6

Absolute stereochemistry.



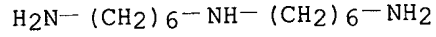
IT **67953-56-4**, Bishexamethylenetriamine-**epichlorohydrin** condensate
RL: MOA (Modifier or additive use); USES (Uses)
(WS 500; moisture-proof paper sheet)

RN 67953-56-4 HCAPLUS

CN 1,6-Hexanediamine, N-(6-aminohexyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

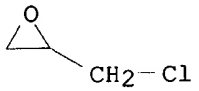
CM 1

CRN 143-23-7
CMF C12 H29 N3



CM 2

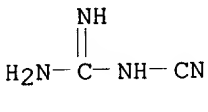
CRN 106-89-8
CMF C3 H5 Cl O



IT **67953-54-2**
RL: MOA (Modifier or additive use); USES (Uses)
(WS 515; moisture-proof paper sheet)
RN 67953-54-2 HCAPLUS
CN Guanidine, cyano-, polymer with N-(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane (9CI) (CA INDEX NAME)

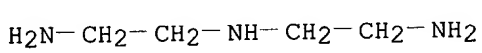
CM 1

CRN 461-58-5
CMF C2 H4 N4



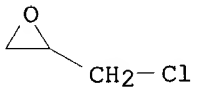
CM 2

CRN 111-40-0
CMF C4 H13 N3



CM 3

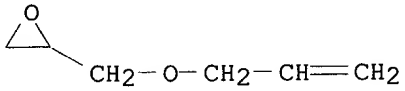
CRN 106-89-8
CMF C3 H5 Cl O



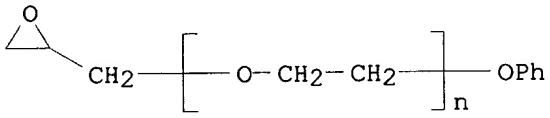
IT **25639-25-2**, Denacol EX 111 **54140-67-9**, Denacol EX 145
86630-59-3, Denacol EX 171
RL: MOA (Modifier or additive use); USES (Uses)
(moisture-proof enhancing agents; moisture-proof paper sheet)
RN 25639-25-2 HCAPLUS
CN Oxirane, [(2-propenyloxy)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

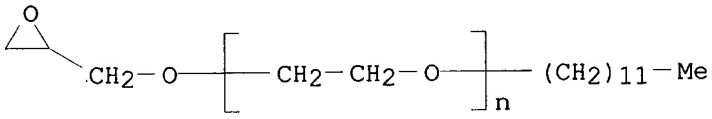
CRN 106-92-3
CMF C6 H10 O2



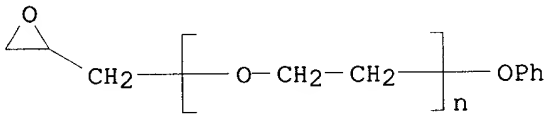
RN 54140-67-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-phenoxy- (9CI) (CA INDEX NAME)



RN 86630-59-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-dodecyl-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IT **54140-67-9**
RL: MOA (Modifier or additive use); USES (Uses)
(moisture-proof paper sheet)
RN 54140-67-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-phenoxy- (9CI) (CA INDEX NAME)



L90 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:56107 HCAPLUS
DN 126:90943
TI Improving paper with **polyisocyanates** and **cationic** compounds
IN Jansen, Bernhard; Koenig, Joachim; Nowak, Peter
PA Bayer A.-G., Germany
SO Ger. Offen., 16 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM D21H017-54
ICS D21H021-10; D21H021-16; D21H021-20
ICA C08G018-64; C08G018-62; C08G018-60; C08G018-58; C08G018-34; C08G018-38;

C08G018-48; C08G018-10
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19520092	A1	19961205	DE 1995-19520092	19950601
	CA 2222731	AA	19961205	CA 1996-2222731	19960520
	WO 9638629	A1	19961205	WO 1996-EP2168	19960520
	W: AU, BG, BR, BY, CA, CN, CZ, HU, JP, KR, LT, MX, NO, PL, RO, RU, SI, US, VN				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9659987	A1	19961218	AU 1996-59987	19960520
	AU 698702	B2	19981105		
	EP 828890	A1	19980318	EP 1996-917389	19960520
	EP 828890	B1	19990811		
	R: CH, DE, ES, FR, GB, IT, LI, NL, SE				
	JP 11505899	T2	19990525	JP 1996-536144	19960520
	ES 2136410	T3	19991116	ES 1996-917389	19960520
	ZA 9604471	A	19961211	ZA 1996-4471	19960531
	US 6022449	A	20000208	US 1997-973066	19971125
PRAI	DE 1995-19520092		19950601		
	WO 1996-EP2168		19960520		

AB Retention, wet and dry strength, and sizing of paper are improved by adding (a) **polyisocyanates** having 1-21.5% **NCO** content and 50-5000 mequiv anionic and(or) anionic-forming groups/100 g and (b) compd. having 5-5000 mequiv **cationic** and(or) **cationic** -forming groups/100 g to the pulp or addn. of (b) to the pulp and treatment of the crude paper with (a), so that fiber-(a)-(b) ratio is 100:(0.001-25):(0.001-25).

ST **polyisocyanate** anionic treatment paper; sizing agent paper; strength improving agent paper; retention improving agent paper; **cationic** compd contg paper

IT **Polyamines**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**cationic** compd.; improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT Paper
Sizes (agents)
(improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT **Polyamines**
Polyamines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-, **cationic** compd.; improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT Polyamides, uses
Polyamides, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**polyamine-, cationic** compd.; improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT **Polyamines**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyethylene-, reaction products, with adipic acid,

dichloroethane-crosslinked, **cationic** compd.; improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT 70893-01-5P **185250-25-3P 185250-26-4P**, Adipic acid-dichloroethane-diethylenetriamine copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**cationic** compd.; improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT 185402-19-1, Emcat C 3 185402-36-2, Basocoll PR 8546
RL: TEM (Technical or engineered material use); USES (Uses)
(**cationic** compd.; improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT 1300-21-6, Dichloroethane
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(crosslinkers, for **polyamines**; improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT 50-21-5DP, reaction products with tris(**isocyanatohexyl**)isocyanurate and polyethylene glycol (methoxyethoxy)ethanol ether 1562-00-1DP, Sodium 2-hydroxyethanesulfonate, reaction products with tris(**isocyanatohexyl**)isocyanurate and polyethylene glycol (methoxyethoxy)ethanol ether 3779-63-3DP, Tris(6-**isocyanatohexyl**) isocyanurate, reaction products with polyethylene glycol (methoxyethoxy)ethanol ether and anionic group-contg. compds. **9004-74-4DP**, reaction products with tris(**isocyanatohexyl**)isocyanurate and anionic group-contg. compds.
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

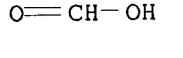
IT 9005-25-8D, Starch, **cationic** derivs., uses
RL: TEM (Technical or engineered material use); USES (Uses)
(improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

IT **185250-25-3P 185250-26-4P**, Adipic acid-dichloroethane-diethylenetriamine copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**cationic** compd.; improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)

RN 185250-25-3 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane, formate (9CI) (CA INDEX NAME)

CM 1

CRN 64-18-6
CMF C H2 O2

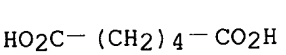


CM 2

CRN 25212-19-5
CMF (C6 H10 O4 . C4 H13 N3 . C3 H5 Cl O)x
CCI PMS

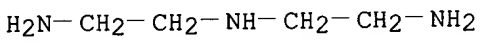
CM 3

CRN 124-04-9
CMF C6 H10 O4



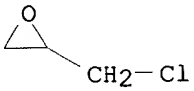
CM 4

CRN 111-40-0
CMF C4 H13 N3



CM 5

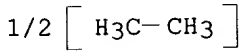
CRN 106-89-8
CMF C3 H5 Cl O



RN 185250-26-4 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine and dichloroethane (9CI) (CA INDEX NAME)

CM 1

CRN 1300-21-6
CMF C2 H4 Cl2
CCI IDS



D1—Cl

CM 2

CRN 124-04-9
CMF C6 H10 O4

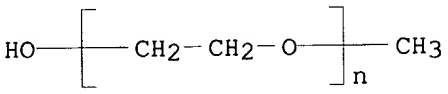
$HO_2C-(CH_2)_4-CO_2H$

CM 3

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

IT **9004-74-4DP**, reaction products with tris(**isocyanatohexyl**)isocyanurate and anionic group-contg. compds.
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(improving retention, strength and sizing of paper with anionic **polyisocyanates** and **cationic** compds.)
RN 9004-74-4 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-hydroxy- (9CI) (CA INDEX NAME)



L90 ANSWER 15 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:543779 HCAPLUS
DN 125:171351
TI Method for sizing paper with a rosin-hydrocarbon resin size
IN Ehrhardt, Susan M.; Evans, Bruce D.
PA Hercules Inc., USA
SO Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM D21H023-76
ICS D21H017-62; D21H017-56; D21H017-34; D21H017-66
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 719893	A2	19960703	EP 1995-120446	19951222
	EP 719893	A3	19970502		
	EP 719893	B1	20020515		
	R: AT, BE, DE, ES, FR, GB, IT, NL, PT, SE				
	FI 9506217	A	19960629	FI 1995-6217	19951222
	AT 217659	E	20020615	AT 1995-120446	19951222
	NO 9505311	A	19960701	NO 1995-5311	19951227
	US 6273997	B1	20010814	US 2000-617359	20000717
PRAI	US 1994-365393	A	19941228		

AB Disclosed is a method for sizing paper or paperboard at a pH of about 5.0 to about 8.5 by incorporating a sizing compn. consisting essentially of (a) rosin, (b) hydrocarbon resin, (c) a **cationic** component

consisting essentially of a **cationic** polyamine resin at a wt. ratio of the rosin and hydrocarbon resin to **cationic** polyamine of about 5:1 to about 1:2, and (d) 0 to 0.3% alum. Preferably the rosin and hydrocarbon resin are added as a blend. The **cationic** polyamine resin is selected from the group consisting of polyalkyleneamine-**epihalohydrin** resins, polyalkyleneamine-dicyandiamide-**epihalohydrin** resins, poly(diallylamine.HCl)-**epihalohydrin** resins, poly(methyldiallylamine.HCl)-**epihalohydrin** resins, **epihalohydrin**-modified polyethyleneimine resins, amine-modified poly(methyldiallylamine.HCl)-**epihalohydrin** resins and mixts. thereof.

ST neutral hydrocarbon resin rosin sizing paper; polymethyldiallylamine **epihalohydrin** adduct rosin sizing paper; diallylamine **epihalohydrin** resin rosin sizing paper; dicyandiamide alkyleneamine resin rosin sizing paper; alkyleneamine **epihalohydrin** resin rosin sizing paper; **cationic** polyamine rosin hydrocarbon resin sizing; paperboard neutral hydrocarbon resin rosin sizing

IT **Polyamines**
RL: MOA (Modifier or additive use); USES (Uses)
(**cationic**; neutral sizing paper with a rosin-hydrocarbon resin size in presence of **cationic polyamines**)

IT Paper
Sizing
(neutral sizing paper with a rosin-hydrocarbon resin size in presence of **cationic polyamines**)

IT Aromatic hydrocarbons, uses
Ionene polymers
RL: MOA (Modifier or additive use); USES (Uses)
(neutral sizing paper with a rosin-hydrocarbon resin size in presence of **cationic polyamines**)

IT Turpentine
RL: MOA (Modifier or additive use); USES (Uses)
(polymd.; neutral sizing paper with a rosin-hydrocarbon resin size in presence of **cationic polyamines**)

IT Tall-oil rosin
RL: MOA (Modifier or additive use); USES (Uses)
(fumarated, neutral sizing paper with a rosin-hydrocarbon resin size in presence of **cationic polyamines**)

IT 106-89-8D, **Epichlorohydrin**, reaction products with poly(diallylmethylamine hydrochloride) 110-17-8D, Fumaric acid, reaction products with rosin 9017-27-0, Piccotex 75 **25085-17-0** **25610-84-8** **26658-42-4** **27636-21-1** **27754-94-5** **29566-78-7D**, reaction products with **epichlorohydrin** **34411-58-0** **51252-93-8** **51961-45-6** **67953-54-2** **67953-56-4**
RL: MOA (Modifier or additive use); USES (Uses)
(neutral sizing paper with a rosin-hydrocarbon resin size in presence of **cationic polyamines**)

IT **25085-17-0** **25610-84-8** **26658-42-4** **27636-21-1** **27754-94-5** **29566-78-7D**, reaction products with **epichlorohydrin** **34411-58-0** **51252-93-8** **51961-45-6** **67953-54-2** **67953-56-4**
RL: MOA (Modifier or additive use); USES (Uses)
(neutral sizing paper with a rosin-hydrocarbon resin size in presence of **cationic polyamines**)

RN 25085-17-0 HCAPLUS

CN 1,2-Ethanediamine, N-(2-aminoethyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

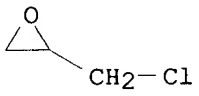
CM 1

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 2

CRN 106-89-8
CMF C3 H5 Cl O



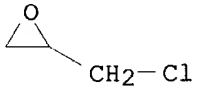
RN 25610-84-8 HCAPLUS
CN Aziridine, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

CM 2

CRN 106-89-8
CMF C3 H5 Cl O



RN 26658-42-4 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

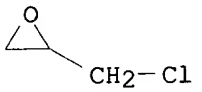
CM 1

CRN 112-57-2
CMF C8 H23 N5

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 2

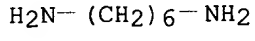
CRN 106-89-8
CMF C3 H5 Cl O



RN 27636-21-1 HCAPLUS
CN 1,6-Hexanediamine, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

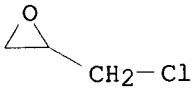
CM 1

CRN 124-09-4
CMF C6 H16 N2



CM 2

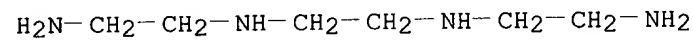
CRN 106-89-8
CMF C3 H5 Cl O



RN 27754-94-5 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

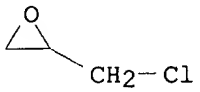
CM 1

CRN 112-24-3
CMF C6 H18 N4



CM 2

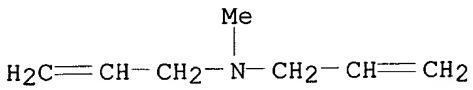
CRN 106-89-8
CMF C3 H5 Cl O



RN 29566-78-7 HCAPLUS
CN 2-Propen-1-amine, N-methyl-N-2-propenyl-, hydrochloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

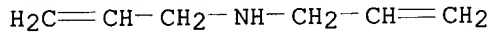
CRN 13107-01-2
CMF C7 H13 N . Cl H



RN 34411-58-0 HCAPLUS
CN 2-Propen-1-amine, N-2-propenyl-, hydrochloride, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

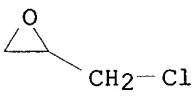
CM 1

CRN 6147-66-6
CMF C6 H11 N . Cl H



CM 2

CRN 106-89-8
CMF C3 H5 Cl O



RN 51252-93-8 HCAPLUS
CN 1,6-Hexanediamine, polymer with (chloromethyl)oxirane and 1,2-dichloroethane (9CI) (CA INDEX NAME)

CM 1

CRN 124-09-4
CMF C6 H16 N2

$H_2N-(CH_2)_6-NH_2$

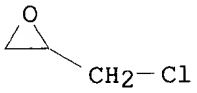
CM 2

CRN 107-06-2
CMF C2 H4 Cl2

$Cl-CH_2-CH_2-Cl$

CM 3

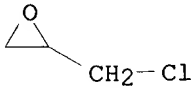
CRN 106-89-8
CMF C3 H5 Cl O



RN 51961-45-6 HCAPLUS
CN 1,3-Propanediamine, N-(3-aminopropyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

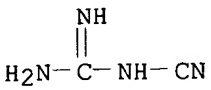
CRN 56-18-8
CMF C6 H17 N3

$H_2N-(CH_2)_3-NH-(CH_2)_3-NH_2$

RN 67953-54-2 HCAPLUS
CN Guanidine, cyano-, polymer with N-(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane (9CI) (CA INDEX NAME)

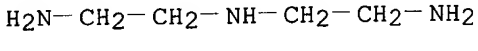
CM 1

CRN 461-58-5
CMF C2 H4 N4



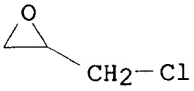
CM 2

CRN 111-40-0
CMF C4 H13 N3



CM 3

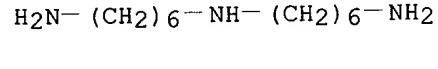
CRN 106-89-8
CMF C3 H5 Cl O



RN 67953-56-4 HCAPLUS
CN 1,6-Hexanediamine, N-(6-aminohexyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

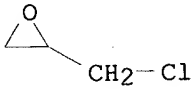
CM 1

CRN 143-23-7
CMF C12 H29 N3



CM 2

CRN 106-89-8
CMF C3 H5 Cl O



L90 ANSWER 16 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:537258 HCAPLUS
DN 125:171352

TI Method for sizing paper
IN Ehrhardt, Susan M.; Evans, D. Bruce
PA Hercules Inc., USA
SO Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM D21H023-76
ICS D21H017-62; D21H017-56; D21H017-66
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 719892	A2	19960703	EP 1995-120445	19951222
	EP 719892	A3	19970416		
	R: AT, BE, DE, ES, FR, GB, IT, NL, PT, SE				
	US 6033526	A	20000307	US 1994-365399	19941228
	FI 9506216	A	19960629	FI 1995-6216	19951222
	NO 9505312	A	19960701	NO 1995-5312	19951227
	US 6228219	B1	20010508	US 1999-396115	19990914
PRAI	US 1994-365399	A	19941228		

AB Disclosed is a method for sizing paper at a pH of about 5.0-8.5 by incorporating into a paper pulp a sizing compn. consisting essentially of (1) rosin, (2) a **cationic** polyamine resin at a wt. ratio of rosin to **cationic** polyamine of about 5:1 to about 1:2, and (3) up to 0.3% alum. The **cationic** polyamine resin is selected from the group consisting of polyalkyleneamine-**epihalohydrin** resins, polyalkyleneamine-dicyandiamide-**epihalohydrin** resins, poly(diallylamine.HCl)-**epihalohydrin** resins, poly(methyldiallylamine.HCl)-**epihalohydrin** resins, **epihalohydrin**-modified polyethyleneimine resins, amine-modified poly(methyldiallylamine.HCl)-**epihalohydrin** resins and mixts. thereof.

ST neutral rosin sizing paper; polymethyldiallylamine **epihalohydrin** adduct rosin sizing paper; diallylamine **epihalohydrin** resin rosin sizing paper; dicyandiamide alkyleneamine resin rosin sizing paper; alkyleneamine **epihalohydrin** resin rosin sizing paper; **cationic** polyamine rosin sizing paper

IT **Polyamines**
RL: MOA (Modifier or additive use); USES (Uses)
(**cationic**; sizing paper with rosin in neutral conditions in presence of **cationic polyamines**)

IT Paper
Paperboard
Sizing
(sizing paper with rosin in neutral conditions in presence of **cationic polyamines**)

IT Ionene polymers
RL: MOA (Modifier or additive use); USES (Uses)
(sizing paper with rosin in neutral conditions in presence of **cationic polyamines**)

IT Tall-oil rosin
RL: MOA (Modifier or additive use); USES (Uses)
(fumarated, sizing paper with rosin in neutral conditions in presence of **cationic polyamines**)

IT 106-89-8D, **Epichlorohydrin**, **cationic** reaction products with **polyamines** 110-17-8D, Fumaric acid, reaction products with tall-oil rosin **25085-17-0**, Diethylenetriamine-**epichlorohydrin** copolymer **25610-84-8**, **Epichlorohydrin**-ethylenimine copolymer **26658-42-4**,

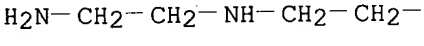
Epichlorohydrin-tetraethylenepentamine copolymer **27636-21-1, Epichlorohydrin**-hexamethylenediamine copolymer **27754-94-5, Epichlorohydrin**-triethylenetetramine copolymer **29566-78-7D**, reaction products with **epichlorohydrin 34411-58-0**, Diallylamine hydrochloride-**epichlorohydrin** copolymer **51252-93-8**, 1,2-Dichloroethane-**epichlorohydrin**-1,6-hexamethylenediamine copolymer **51961-45-6, Epichlorohydrin**-iminobispropylamine copolymer **67953-54-2**, Dicyandiamide-diethylenetriamine-**epichlorohydrin** copolymer **67953-56-4**, Bis(hexamethylenetriamine)-**epichlorohydrin** copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(sizing paper with rosin in neutral conditions in presence of **cationic polyamines**)

IT **25085-17-0**, Diethylenetriamine-**epichlorohydrin** copolymer **25610-84-8, Epichlorohydrin**-ethylenimine copolymer **26658-42-4, Epichlorohydrin**-tetraethylenepentamine copolymer **27636-21-1, Epichlorohydrin**-hexamethylenediamine copolymer **27754-94-5, Epichlorohydrin**-triethylenetetramine copolymer **29566-78-7D**, reaction products with **epichlorohydrin 34411-58-0**, Diallylamine hydrochloride-**epichlorohydrin** copolymer **51252-93-8**, 1,2-Dichloroethane-**epichlorohydrin**-1,6-hexamethylenediamine copolymer **51961-45-6, Epichlorohydrin**-iminobispropylamine copolymer **67953-54-2**, Dicyandiamide-diethylenetriamine-**epichlorohydrin** copolymer **67953-56-4**, Bis(hexamethylenetriamine)-**epichlorohydrin** copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(sizing paper with rosin in neutral conditions in presence of **cationic polyamines**)

RN 25085-17-0 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

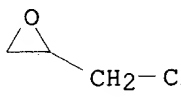
CM 1

CRN 111-40-0
CMF C4 H13 N3



CM 2

CRN 106-89-8
CMF C3 H5 Cl O



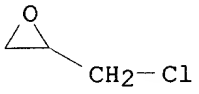
RN 25610-84-8 HCAPLUS
CN Aziridine, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

CM 2

CRN 106-89-8
CMF C3 H5 Cl O



RN 26658-42-4 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

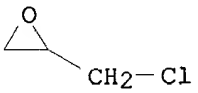
CM 1

CRN 112-57-2
CMF C8 H23 N5

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 2

CRN 106-89-8
CMF C3 H5 Cl O



RN 27636-21-1 HCAPLUS
CN 1,6-Hexanediamine, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

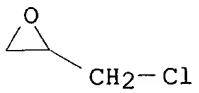
CM 1

CRN 124-09-4
CMF C6 H16 N2

$H_2N-(CH_2)_6-NH_2$

CM 2

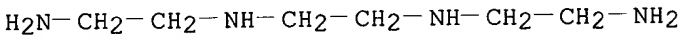
CRN 106-89-8
CMF C3 H5 Cl O



RN 27754-94-5 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

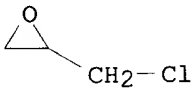
CM 1

CRN 112-24-3
CMF C6 H18 N4



CM 2

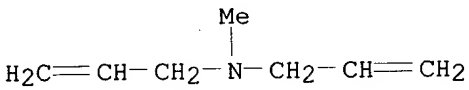
CRN 106-89-8
CMF C3 H5 Cl O



RN 29566-78-7 HCAPLUS
CN 2-Propen-1-amine, N-methyl-N-2-propenyl-, hydrochloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

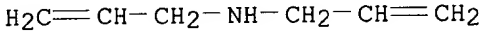
CRN 13107-01-2
CMF C7 H13 N . Cl H



RN 34411-58-0 HCAPLUS
CN 2-Propen-1-amine, N-2-propenyl-, hydrochloride, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

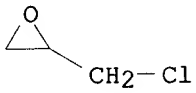
CRN 6147-66-6
CMF C6 H11 N . Cl H



● HCl

CM 2

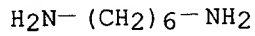
CRN 106-89-8
CMF C3 H5 Cl O



RN 51252-93-8 HCAPLUS
CN 1,6-Hexanediamine, polymer with (chloromethyl)oxirane and 1,2-dichloroethane (9CI) (CA INDEX NAME)

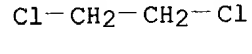
CM 1

CRN 124-09-4
CMF C6 H16 N2



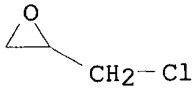
CM 2

CRN 107-06-2
CMF C2 H4 Cl2



CM 3

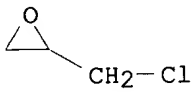
CRN 106-89-8
CMF C3 H5 Cl O



RN 51961-45-6 HCAPLUS
CN 1,3-Propanediamine, N-(3-aminopropyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

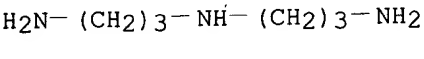
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

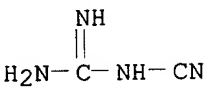
CRN 56-18-8
CMF C6 H17 N3



RN 67953-54-2 HCAPLUS
CN Guanidine, cyano-, polymer with N-(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane (9CI) (CA INDEX NAME)

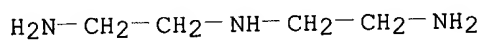
CM 1

CRN 461-58-5
CMF C2 H4 N4



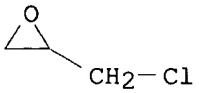
CM 2

CRN 111-40-0
CMF C4 H13 N3



CM 3

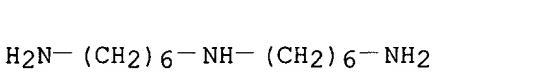
CRN 106-89-8
CMF C3 H5 Cl O



RN 67953-56-4 HCAPLUS
CN 1,6-Hexanediamine, N-(6-aminohexyl)-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

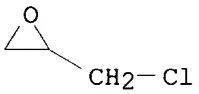
CM 1

CRN 143-23-7
CMF C12 H29 N3



CM 2

CRN 106-89-8
CMF C3 H5 Cl O



L90 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:89317 HCAPLUS
DN 124:149108
TI Release coatings for use on **cationic** polymer-primed paper liners for adhesive tapes and labels
IN Olson, Christopher C.; Kumar, Ramesh C.; Chang, John C.
PA Minnesota Mining and Mfg. Co., USA
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM D21H027-00
ICS D21H019-82; D21H019-84
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 38, 42
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9531603	A1	19951123	WO 1995-US3397	19950320
	W: AU, CA, FI, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5492599	A	19960220	US 1994-245651	19940518
	CA 2188408	AA	19951123	CA 1995-2188408	19950320
	AU 9521869	A1	19951205	AU 1995-21869	19950320
	AU 683168	B2	19971030		
	EP 766762	A1	19970409	EP 1995-914751	19950320
	R: DE, FR, GB, NL				
	JP 10500181	T2	19980106	JP 1995-529625	19950320

FI 9604585 A 19961115 FI 1996-4585 19961115
PRAI US 1994-245651 19940518
WO 1995-US3397 19950320

AB The release coatings comprise water-dispersible polymers contg. pendant COOH groups or their salts. Thus, priming a paper with a com. **cationic** polymer (Kymene 557LX) and coating on top with a NH4OH-neutralized copolymer of Me acrylate, Me methacrylate, methacrylic acid and KF-2001 gave a release paper.

ST release coating carboxylate polymer dispersion; adhesive tape release coating paper; label release coating paper

IT Adhesive tapes
Labels
(release coatings for use on **cationic** polymer-primed paper liners for)

IT Siloxanes and Silicones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(di-Me, mercaptopropyl group-terminated, acrylic copolymers; water-dispersible release polymer coatings for use on paper primed with **cationic** resin)

IT Acrylic polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluorine-contg., water-dispersible release polymer coatings for use on paper primed with **cationic** resin)

IT Paper
(release, coatings for use on **cationic** polymer-primed)

IT Parting materials
(release coatings, water-dispersible polymers for use on **cationic** polymer-primed paper liners for adhesive tape)

IT 106-89-8D, Epichlorohydrin, reaction products with polyethyleneimine 9002-98-6, Polymin SNA **9002-98-6D**, reaction products with **epichlorohydrin** 26062-79-3, Dimethyldiallylammonium chloride polymer 154907-00-3, Crepetrol 190 173717-52-7, Crepeplus 75 173717-53-8, Crepeplus 97 173717-69-6, Kymene 557LX
RL: TEM (Technical or engineered material use); USES (Uses)
(water-dispersible release polymer coatings for use on paper primed with)

IT 79-10-7D, Acrylic acid, polymers with silicone compds. and other vinyl comonomers 79-41-4D, Methacrylic acid, polymers with silicone compds. and other vinyl comonomers 80-62-6D, Methyl methacrylate, polymers with silicone compds. and other vinyl comonomers 96-33-3D, Methyl acrylate, polymers with silicone compds. and other vinyl comonomers 2156-97-0D, Lauryl acrylate, polymers with silicone compds. and other vinyl comonomers 25268-77-3D, polymers with silicone compds. and other vinyl comonomers 40840-75-3, Acrylic acid-lauryl acrylate copolymer 161911-42-8, Acrylic acid-stearyl methacrylate-N-(2-acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide copolymer 173214-39-6, Acrylic acid-methacrylic acid-methyl methacrylate-stearyl acrylate copolymer 173214-40-9, Acrylic acid-N-(2-acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-lauryl acrylate copolymer 173214-41-0, Acrylic acid-N-(acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-lauryl acrylate-stearyl acrylate copolymer 173214-42-1, Acrylic acid-N-(methacryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-lauryl acrylate copolymer 173214-43-2, Acrylic acid-N-(2-acryloyloxyethyl)-N-(butyl)perfluorooctylsulfonamide-lauryl acrylate copolymer 173214-44-3, Acrylic acid-lauryl acrylate-2-perfluorooctylethyl acrylate copolymer 173214-45-4, Acrylic acid-N-(acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-stearyl acrylate copolymer 173214-46-5, Acrylic acid-N-(acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-lauryl methacrylate copolymer 173214-47-6, Acrylic acid-N-(acryloyloxyethyl)-N-

(methyl)perfluorooctylsulfonamide-styrene copolymer 173214-48-7, Acrylic acid-N-(acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-2-ethylhexyl acrylate copolymer 173214-49-8, Acrylic acid-N-(acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-butyl acrylate copolymer 173214-50-1, Acrylic acid-N-(acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-lauryl acrylate-N-methylolacrylamide copolymer 173214-51-2, Acrylic acid-N-(acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-glycidyl methacrylate-lauryl acrylate copolymer 173214-52-3, Acrylic acid-lauryl acrylate-X-22-164B copolymer 173214-53-4, Acrylic acid-N-(acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-lauryl acrylate-X-22-164B copolymer 173214-54-5 173214-55-6, N-(Acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-methyl acrylate-lauryl acrylate copolymer 173214-56-7, N-(Acryloyloxyethyl)-N-(methyl)perfluorooctylsulfonamide-2-carboxyethyl acrylate-lauryl acrylate copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(water-dispersible release polymer coatings for use on paper primed with **cationic** resin)

IT **9002-98-6D**, reaction products with **epichlorohydrin**
RL: TEM (Technical or engineered material use); USES (Uses)
(water-dispersible release polymer coatings for use on paper primed with)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L90 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:498327 HCAPLUS
DN 119:98327
TI Pigment-dispersing aids for **cationic** coatings for paper
IN Sato, Ichiro; Mori, Taiji
PA Honshu Paper Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM D21H019-44
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 42

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05051899	A2	19930302	JP 1991-209608	19910821

PI JP 05051899 A2 19930302 JP 1991-209608 19910821
OS MARPAT 119:98327
AB The title dispersants useful for highly pigmented coating materials are selected from (A) the alkylene oxide adducts (having mol. wt. 1000-600,000) of polyalkylenimines and/or the quaternary ammonium salts bearing C10-22 alkyl or alkenyl groups, (B) R1NH(R2NH)nR3 (R1,2 = H, C1-30 alkyl, acyl; R2 = C2-6 alkylene; n = 1-20), and (C) phosphate esters of

polyoxyalkylene alkyl or alkylaryl ethers. Examples of A is the ethylene oxide/propylene oxide adduct of polyethylenimine (mol. wt. 50,000) and dioleyldimethylammonium chloride, of B is tallow propylenediamine or tallow fatty acid-pentaethylenehexamide (1:1), and of C is polyoxyethylene lauryl ether phosphate ester.

ST pigment dispersant paper coating; polyoxyalkylene deriv pigment dispersant coating; phosphate polyoxyalkylene deriv dispersant pigment; polyalkyleneimine adduct dispersant pigment; quaternary ammonium salt dispersant pigment

IT Amides, uses
Quaternary ammonium compounds, compounds
RL: USES (Uses)
(dispersants, for pigments for paper **cationic** coatings)

IT Pigments
(for paper coatings, dispersants for, alkylene oxide adducts, **polyamines**, quaternary ammonium compds. or phosphates as)

IT Dispersing agents
(for pigments for paper **cationic** coatings, alkylene oxide adducts, **polyamines**, quaternary ammonium compds. or phosphates as)

IT Clays, uses
Kaolin, uses
Zeolites, uses
RL: USES (Uses)
(pigments for paper coatings, dispersants for, alkylene oxide adducts, **polyamines**, quaternary ammonium compds. or phosphates as)

IT Amines, uses
RL: USES (Uses)
(poly-, dispersants, for pigments for paper **cationic** coatings)

IT **Polyoxyalkylenes**, uses
RL: USES (Uses)
(**polyamine**-, graft, dispersants, for pigments for paper **cationic** coatings)

IT **Polyamines**
RL: USES (Uses)
(**polyoxyalkylene**-, graft, dispersants, for pigments for paper **cationic** coatings)

IT Amides, uses
RL: USES (Uses)
(tallow, dispersants, for pigments for paper coatings)

IT 112-03-8, Nissan **Cation** AB 4067-16-7D, Pentaethylenehexamine, amides with tallow fatty acids 7212-69-3, Dioleyldimethylammonium chloride 7664-38-2D, Phosphoric acid, esters with ethoxylated alcs. **39464-66-9**, Polyoxyethylene lauryl ether phosphate ester **116770-99-1**, Aziridine-ethylene oxide graft copolymer
RL: USES (Uses)
(dispersants, for pigments for paper **cationic** coatings)

IT 471-34-1, Calcium carbonate, uses 13463-67-7, Titania, uses 21645-51-2, Aluminum hydroxide, uses
RL: USES (Uses)
(pigments for paper coatings, dispersants for, alkylene oxide adducts, **polyamines**, quaternary ammonium compds. or phosphates as)

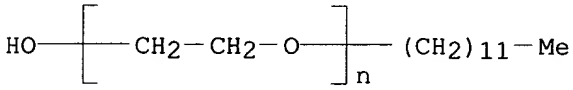
IT **39464-66-9**, Polyoxyethylene lauryl ether phosphate ester **116770-99-1**, Aziridine-ethylene oxide graft copolymer
RL: USES (Uses)
(dispersants, for pigments for paper **cationic** coatings)

RN 39464-66-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-dodecyl-.omega.-hydroxy-, phosphate (9CI) (CA INDEX NAME)

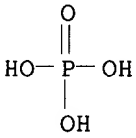
CM 1

CRN 9002-92-0
CMF (C2 H4 O)n C12 H26 O
CCI PMS



CM 2

CRN 7664-38-2
CMF H3 O4 P



RN 116770-99-1 HCAPLUS
CN Aziridine, polymer with oxirane, graft (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

CM 2

CRN 75-21-8
CMF C2 H4 O

L90 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:533216 HCAPLUS
DN 117:133216
TI Ketene dimer-based sizing compositions with good storage and mechanical stability
IN Torii, Hidenori; Kimura, Hiroshi; Dobashi, Hiroshi
PA Misawa Ceramic Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM D21H017-63
ICS D21H017-05; D21H017-28; D21H021-14
ICA D21H019-10; D21H019-24; D21H019-36; D21H019-54
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04119194	A2	19920420	JP 1990-235941	19900907
	JP 2894512	B2	19990524		

AB The title compns. are concd. aq. dispersions contg. 100 parts ketene dimers, **cationic** and anionic dispersants, 0.1-20 parts Zr oxychloride, and 0-100 parts water-sol. Al sulfate, chloride, nitrate, formate, and/or acetate. An aq. dispersion (20.2% solids) contg. ketene dimer from 40:60 palmitoyl-stearoyl chloride 100, **cationic** starch 23, Na naphthalenesulfonate-HCHO condensate 1, and Zr oxychloride 2 parts had viscosity 20 cP and showed no change after 150 h of shaking or 30 days of storage at 30.degree.. Paper sized with the dispersion showed Stockigt sizing degree 14.0 s.

ST ketene dimer size dispersion stability; dispersant ketene dimer size; aluminum salt stabilizer size dispersion; zirconium oxychloride stabilizer size dispersion

IT Sizes
(ketene dimers, stable aq. dispersions of, for paper)

IT Paper
(sizes for, ketene dimers as, stable aq. dispersions of)

IT Dispersing agents
(anionic, for ketene dimer sizes)

IT Dispersing agents
(**cationic**, for ketene dimer sizes)

IT **Polyamines**
RL: USES (Uses)
(polyamide-, reaction products, with **epichlorohydrin**, dispersants, for ketene dimer sizes)

IT Polyamides, compounds
RL: USES (Uses)
(**polyamine-**, reaction products, with **epichlorohydrin**, dispersants, for ketene dimer sizes)

IT **Polyamines**
RL: USES (Uses)
(reaction products, with **epichlorohydrin**, dispersants, for ketene dimer sizes)

IT 106-89-8D, reaction products with **polyamines** 9005-25-8D, Starch, **cationic** derivs. **9008-63-3**, Formaldehyde-sodium naphthalenesulfonate copolymer **143477-08-1**, PAS-H 35S 143477-17-2, Polyacron DW 143477-64-9, UFK 200
RL: USES (Uses)
(dispersing agents, in aq. sizes based on ketene dimer)

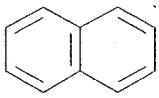
IT 674-82-8D, Ketene dimer, fatty alkyl derivs. 10126-68-8, Palmitylketene dimer 24430-01-1, Stearylketene dimer
RL: USES (Uses)
(sizes, for paper, stable aq. dispersions of)

IT 139-12-8, Aluminum acetate 7360-53-4, Aluminum formate 7446-70-0, Aluminum chloride, uses 7446-70-0D, Aluminum chloride, polymers 7699-43-6, Zirconium oxychloride 10043-01-3, Aluminum sulfate 13473-90-0, Aluminum nitrate
RL: USES (Uses)

(stabilizers, for aq. dispersions of ketene dimer sizes)
IT **9008-63-3**, Formaldehyde-sodium naphthalenesulfonate copolymer
143477-08-1, PAS-H 35S
RL: USES (Uses)
(dispersing agents, in aq. sizes based on ketene dimer)
RN 9008-63-3 HCAPLUS
CN Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde (9CI)
(CA INDEX NAME)

CM 1

CRN 1321-69-3
CMF C10 H8 O3 S . Na
CCI IDS



D1—SO_3H

● Na

CM 2

CRN 50-00-0
CMF C H2 O

$H_2C{=}O$

RN 143477-08-1 HCAPLUS

L90 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:108630 HCAPLUS
DN 116:108630
TI **Cationic** sizes for paper
IN Tawara, Hideyuki; Hirata, Takeshi; Tanaka, Yasuo; Kurahashi, Masatoshi; Tsuchitani, Koichi
PA Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G073-02
ICS D21H017-07
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03200837	A2	19910902	JP 1990-87357	19900403

PRAI JP 1989-175597 19890710

AB The title sizes suitable for neutral papermaking with self fixation properties contain polymers obtained by emulsion polymn. of hydrophobic monomer(s) in an aq. medium using **cationic** polymeric emulsifier obtained by reacting RX (R = C5-50 hydrocarbyl; X = group of atoms contg. amine-reactive functional group) with a polyamine having .gtoreq.2 primary and/or secondary amino groups. A **cationic** surfactant was prepd. by reacting 300 parts Epomin SP-006 with 372 parts AOE Y08 at 80.degree. for 4 h and used as an emulsifier for emulsion polymn. of 42 parts 2-ethylhexyl acrylate and 28 parts styrene in water to give a 32.8%-solids emulsion with pH 4.6 and coagulum 0.01%, excellent stability in storage and diln., and retention on pulp (in 0.6% sizing) 99%.

ST styrene copolymer **cationic** emulsion size; **cationic** emulsion size papermaking; acrylic copolymer **cationic** emulsion size; polyethylenimine **epoxide** reaction product emulsifier

IT **Polyamines**
RL: USES (Uses)
(**epoxide** adducts, emulsifiers, for **cationic** sizes for papermaking)

IT Paper
(manuf. of, **cationic** emulsion sizes for)

IT Emulsifying agents
(polyethylenimine-**epoxide** adducts, for **cationic** paper sizes)

IT **Epoxides**
RL: USES (Uses)
(C10-12-alkyl, polyethylenimine adducts, emulsifiers, for **cationic** sizes for papermaking)

IT **Epoxides**
RL: USES (Uses)
(C14-16-alkyl, polyethylenimine adducts, emulsifiers, for **cationic** sizes for papermaking)

IT **Epoxides**
RL: USES (Uses)
(C18-26-alkyl, polyethylenimine adducts, emulsifiers, for **cationic** sizes for papermaking)

IT Sizes
(emulsions, **cationic**, for paper, with good stability and fixation)

IT Amines, compounds
(poly-, adducts, with **epoxides**, emulsifiers, for **cationic** sizes for papermaking)

IT 25153-46-2P, 2-Ethylhexyl acrylate-styrene copolymer 25719-51-1P, 2-Ethylhexyl methacrylate polymer 30814-77-8P 32761-10-7P, Stearyl methacrylate-styrene copolymer 60451-41-4P 138005-31-9P 138005-33-1P **138048-31-4P**
RL: PREP (Preparation)
(**cationic** emulsions, manuf. of, for paper sizes)

IT 2156-97-0D, Lauryl acrylate, reaction products with polyethylenimine **9002-98-6D**, Epomin SP-006, **epoxide** adducts
RL: USES (Uses)
(emulsifiers, for **cationic** sizes for papermaking)

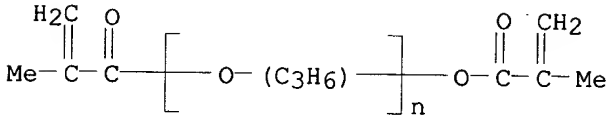
IT **138048-31-4P**
RL: PREP (Preparation)
(**cationic** emulsions, manuf. of, for paper sizes)

RN 138048-31-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]poly[oxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

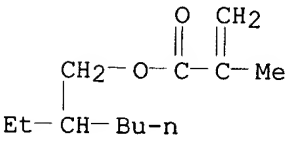
CM 1

CRN 25852-49-7
CMF (C3 H6 O)n C8 H10 O3
CCI IDS, PMS



CM 2

CRN 688-84-6
CMF C12 H22 O2



IT **9002-98-6D**, Epomin SP-006, **epoxide** adducts
RL: USES (Uses)
(emulsifiers, for **cationic** sizes for papermaking)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L90 ANSWER 21 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:38499 HCAPLUS
DN 112:38499
TI **Cationic** polymer and derivative dispersants and paper coatings containing them
IN Tawara, Hideyuki; Ito, Hiroshi; Sano, Sadanori
PA Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM D21H001-34
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 42
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01207494	A2	19890821	JP 1988-26673	19880209

AB Title dispersants, imparting prolonged storage stability and flowability to paper coatings, comprise **cationic** polymers and/or their reaction products with acidic compds., quaternarizing agents, and unsatd. acids, amides, and/or nitriles. The A are obtained from a polyethylene glycol polyhalohydrin ether (I) by the reaction with 0.1-10,000 phr aziridine compds. and polyamines. Thus, 160 parts I in 1600 parts water was heated at 80.degree., mixed with 240 parts ethyleneimine over 45 min, and stirred for 6 h to prep. a **cationic** polymer (A). A mixt. contg. pigment 100, aq. soln. of the A (2.0% based on pigment as solids) 330, and 10% aq. poly(vinyl alc.) soln. 250 parts showed viscosity 230 and 250 cP-s initially and after 3 days, resp., vs. >2000 and >2000, resp., for a poly(Na acrylate) in place of the A.

ST **cationic** polymer dispersant paper coating; polyethylene glycol glycidyl ether deriv; polyoxyalkylene glycidyl deriv **cationic** dispersant; storage stable dispersant coating paper; flowability dispersant coating paper

IT Paper
(coatings for, dispersing agents of, with improved storage stability and flowability)

IT Dispersing agents
(for paper coatings with improved flowability, **cationic** polymers and derivs. as)

IT Coating materials
(for paper, dispersants for, with improved storage stability and flowability)

IT Amines, compounds
RL: USES (Uses)
(poly-, reaction products, with polyethylene glycol glycidyl ethers, as dispersing agents for paper coatings with improved flowability)

IT Amides, compounds
Carboxylic acids, compounds
Nitriles, compounds
RL: USES (Uses)
(unsatd., reaction products with aziridine-modified polyethylene glycol glycidyl ethers, dispersants for paper coatings)

IT 79-06-1D, 2-Propenamide, reaction products with ethyleneimine-modified polyethylene glycol glycidyl ethers 79-10-7D, 2-Propenoic acid, reaction products with ethyleneimine-modified polyethylene glycol glycidyl ethers 79-11-8D, reaction products with ethyleneimine-modified polyethylene glycol glycidyl ethers 85-44-9D, 1,3-Isobenzofurandione, reaction products with ethyleneimine-modified polyethylene glycol glycidyl ethers 106-89-8D, polyethylene glycol ethers, reaction products with aziridines and polyamines and acids, amides and/or nitriles 107-13-1D, 2-Propenenitrile, reaction products with ethyleneimine-modified polyethylene glycol glycidyl ethers 108-31-6D, 2,5-Furandione, reaction products with ethyleneimine-modified polyethylene glycol glycidyl ethers **151-56-4D**, Ethyleneimine, reaction products with **polyethylene** glycol glycidyl ethers and acids, amides, nitriles, and/or quaternarizing agents 25322-68-3D, ether with epihalohydrin, reaction products with aziridines and polyamines and acids, amides and/or nitriles
RL: USES (Uses)
(dispersing agents, for paper coating with improved storage stability and flowability)

IT **151-56-4D**, Ethyleneimine, reaction products with **polyethylene** glycol glycidyl ethers and acids, amides, nitriles, and/or quaternarizing agents

RL: USES (Uses)
(dispersing agents, for paper coating with improved storage stability and flowability)
RN 151-56-4 HCAPLUS
CN Aziridine (9CI) (CA INDEX NAME)

L90 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:137341 HCAPLUS
DN 110:137341
TI Alkoxylated polyamines and ketene dimers as sizing agents for papers
IN Urushibata, Hideaki; Ishibashi, Yoichi; Hiramatsu, Hiroyoshi
PA Kao Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM D21H003-02
ICS D21H003-60
ICA C08K005-07; C08L071-02
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63282395	A2	19881118	JP 1987-112077	19870508
	JP 07065279	B4	19950712		

AB The title compns. comprise ketene dimers and adducts of alkylene oxides and polyalkylenepolyamines or polyethylenimine (mol. wt. 300-100,000) which contain 35-99% polyoxyethylene units. Thus, 3 parts adduct (I; mol. wt. 10,000) of triethylenetetramine and 10:90 propylene oxide-ethylene oxide mixt. was dissolved in water, mixed with 17 parts stearylketene dimer at 70.degree., and dild. to prep. a size. Paper prepd. with 0.03% size showed Stockigt sizing degree 5.0 s initially and 12.1 s after 1 day at 20.degree. and 60% relative humidity, vs. 1.5 and 3.4, resp., with propoxylated **cationic** starch instead of I.
ST ketene dimer size paper; polyamine alkoxylate size paper; polyoxyalkylene polyamine size paper; polyethylenimine alkoxylate size paper; polyoxyethylene polyamine size paper
IT Sizes
(for paper, ketene dimers and alkoxylated **polyamines** as)
IT Paper
(sizes for, ketene dimers and alkoxylated **polyamines** as)
IT **Polyoxyalkylenes**, uses and miscellaneous
RL: USES (Uses)
(**polyamine-**, sizes contg. ketene dimers and, for paper)
IT **Polyamines**
RL: USES (Uses)
(**polyoxyalkylene-**, sizes contg. ketene dimers and, for paper)
IT 24430-01-1, Stearylketene dimer
RL: USES (Uses)
(sizes contg. alkoxylated **polyamines** and, for paper)
IT 112-24-3D, alkoxylated 112-57-2D, Tetraethylenepentamine, alkoxylated **9002-98-6D**, alkoxylated **9003-11-6D**, Ethylene oxide-propylene oxide copolymer, **polyamine** derivs.

25322-68-3D, polyamine derivs.
RL: USES (Uses)
(sizes contg. ketene dimers and, for paper)

IT **9002-98-6D**, alkoxylated **9003-11-6D**, Ethylene oxide-propylene oxide copolymer, **polyamine** derivs.
25322-68-3D, polyamine derivs.
RL: USES (Uses)
(sizes contg. ketene dimers and, for paper)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

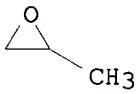
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 9003-11-6 HCAPLUS
CN Oxirane, methyl-, polymer with oxirane (9CI) (CA INDEX NAME)

CM 1

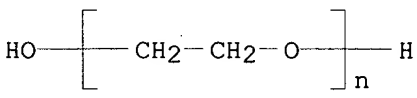
CRN 75-56-9
CMF C3 H6 O



CM 2

CRN 75-21-8
CMF C2 H4 O

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



L90 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1987:86507 HCAPLUS

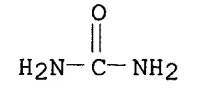
DN 106:86507
TI Printing papers
IN Motojo, Yoshitoshi; Maehama, Mitsuhiro; Kurokawa, Akio
PA Mitsui Toatsu Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM D21H003-54
ICS D21H003-48
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61146900	A2	19860704	JP 1984-264619	19841217

AB Reusable printing paper with good offset printability is manufd. from a pulp slurry contg. 0.5-20% (based on dry pulp) granular urea-HCHO resin (I) and 0.05-1.2% **epichlorohydrin**-modified aminopolyamide. Thus, an aq. pulp was mixed with sapond. maleated rosin, Al2(SO4)3, 0.2% (based on dry pulp) **epichlorohydrin**-modified adipic acid-diethylenetriamine copolymer (II), and 5.0% I (av. particle size 0.2 .mu.) to give a printing paper having brightness 63.4%, opacity 90.4%, printing opacity 83.5%, wet pick strength grade 7, and printability grade 10, compared with 52.5, 85.3, 64.5, 1, and 1, resp., without I and II.
ST urea resin paper printability; polyamide **cationic** paper strengthener; **epichlorohydrin** polyamide paper strengthener; printing paper opacifier; adipic acid polyamide paper; diethylenetriamine polyamide paper
IT Paper
(lithog., opacifiers and strengthening agents for, urea resins and **cationic** polyamides as)
IT **Polyamines**
RL: USES (Uses)
(polyamide-, **cationic**, in printing paper, for printability and opacity)
IT Polyamides, uses and miscellaneous
RL: USES (Uses)
(**polyamine-**, **cationic**, in printing paper, for printability and opacity)
IT **9011-05-6**, Formaldehyde-urea copolymer **25212-19-5**, Adipic acid-diethylenetriamine-**epichlorohydrin** copolymer
RL: USES (Uses)
(in printing paper, for printability and opacity)
IT **9011-05-6**, Formaldehyde-urea copolymer **25212-19-5**, Adipic acid-diethylenetriamine-**epichlorohydrin** copolymer
RL: USES (Uses)
(in printing paper, for printability and opacity)
RN 9011-05-6 HCAPLUS
CN Urea, polymer with formaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 57-13-6
CMF C H4 N2 O



CM 2

CRN 50-00-0
CMF C H2 O

$H_2C{=}O$

RN 25212-19-5 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9
CMF C6 H10 O4

$HO_2C{-}(CH_2)_4{-}CO_2H$

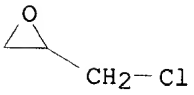
CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N{-}CH_2{-}CH_2{-}NH{-}CH_2{-}CH_2{-}NH_2$

CM 3

CRN 106-89-8
CMF C3 H5 Cl O



L90 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1986:151157 HCAPLUS
DN 104:151157
TI Wet-strengthened cellulosic webs
IN Avis, Robert P.
PA Scott Paper Co., USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM D21H005-12
NCL 162157600
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)

Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4557801	A	19851210	US 1984-642213	19840820

AB The addn. of quaternized guar gum (I) and ethylene-maleamic acid copolymer (II) to cellulose pulp gave paper with improved dry and wet strength properties. Thus, the addn. of 2% I and 1.0% II on the basis of fiber wt. to kraft pulp slurry (pH 4.0) gave paper with 54.6 and 207.0 oz/in. wet and dry off machine tensile strength, resp.

ST quaternized galactomannan strengthening paper; maleamic acid copolymer additive; guar gum strengthening paper

IT Paper
(wet strengthening of, with maleamic acid copolymer contg. **cationic** guar gum)

IT Amines, uses and miscellaneous
RL: USES (Uses)
(polyamidepoly-, **epichlorohydrin**-modified, wet strengthening agents from maleamic acid copolymer and, for paper)

IT 9000-30-0
RL: USES (Uses)
(**cationic**, wet strengthening with maleamic acid copolymer and, of paper)

IT 106-89-8, uses and miscellaneous
RL: USES (Uses)
(**polyamine** modified with, wet strengthening agents from maleamic acid copolymer and, for paper)

IT 9003-05-8 9003-05-8D, glyoxalated 9003-08-1 9005-25-8, properties
9011-05-6 26373-59-1 59680-46-5 63939-41-3 86835-95-2
90452-60-1 90881-67-7 90954-73-7 101359-66-4 101359-67-5
101359-90-4 101359-91-5
RL: USES (Uses)
(wet strengthening with maleamic acid copolymer and, of paper)

IT **49720-41-4**
RL: USES (Uses)
(wet strengthening with quaternized guar gum and, of paper)

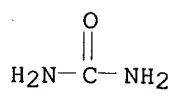
IT **9011-05-6**
RL: USES (Uses)
(wet strengthening with maleamic acid copolymer and, of paper)

RN 9011-05-6 HCAPLUS

CN Urea, polymer with formaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 57-13-6
CMF C H4 N2 O



CM 2

CRN 50-00-0
CMF C H2 O

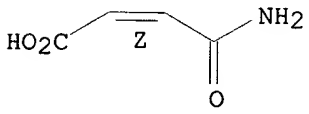
$H_2C{=}O$

IT **49720-41-4**
RL: USES (Uses)
(wet strengthening with quaternized guar gum and, of paper)
RN 49720-41-4 HCAPLUS
CN 2-Butenoic acid, 4-amino-4-oxo-, (Z)-, polymer with ethene (9CI) (CA INDEX NAME)

CM 1

CRN 557-24-4
CMF C4 H5 N O3

Double bond geometry as shown.



CM 2

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

L90 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1985:455651 HCAPLUS
DN 103:55651
TI **Cationization** of anionic starch
PA Kyoritsu Organic Industrial Research Laboratory, Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08B031-00
ICS C08K005-19; C08L003-00
ICA D21H003-28
ICI C08L003-00, C08L101-00
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 44
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60053501	A2	19850327	JP 1983-162032	19830905

AB Anionic starch having anionic group content >0.3 mol% and **cationized** with mixts. of a **cationic** polymer and (3-chloro-2-hydroxypropyl)trimethylammonium chloride (I) is useful for strengthening paper. Thus, 31 g starch was oxidized to give oxidized starch (II) with anionic group content 1.5 mol%. II was **cationized** with 4% (on I wt.) 60% soln. of 1:1 (wt. ratio) mixt. of I and **epichlorohydrin**-2,4,6-tris(dimethylaminoethyl)phenol

copolymer to give a **cationized** starch (III). A paper stock contg. 3% Al2(SO4)3 and 1.0% III was passed through a papermaking machine to give paper with high tear strength.

ST starch **cationized** strengthening agent; paper strengthening agent **cationized** starch; tear strength strengthened paper; chlorohydroxypropyltrimethylammonium chloride starch **cationization**; **epichlorohydrin** copolymer starch **cationization**

IT Paper
(strengthening agents for, reaction products of oxidized starch with (chlorohydroxypropyl)trimethylammonium chloride and **cationic** polymers as)

IT Amines, uses and miscellaneous
RL: USES (Uses)
(polyamidepoly-, reaction products with **epichlorohydrin**, oxidized starch and (chlorohydroxypropyl)trimethylammonium chloride, as strengthening agents, for paper)

IT Polyamides, uses and miscellaneous
RL: USES (Uses)
(**polyamine**-, reaction products with **epichlorohydrin**, oxidized starch and (chlorohydroxypropyl)trimethylammonium chloride, as strengthening agents, for paper)

IT 106-89-8D, reaction products with polyamide **polyamines**, oxidized starch and (3-chloro-2-hydroxypropyl)trimethylammonium chloride 3327-22-8D, reaction products with oxidized starch and **cationic** polymers **61660-91-1D**, reaction products with oxidized starch and (3-chloro-2-hydroxypropyl)trimethylammonium chloride **72452-26-7D**, reaction products with oxidized starch and (3-chloro-2-hydroxypropyl)trimethylammonium chloride
RL: USES (Uses)
(strengthening agents for, for paper)

IT 9005-25-8D, oxidized, reaction products with **cationic** polymers and (3-chloro-2-hydroxypropyl)trimethylammonium chloride
RL: USES (Uses)
(strengthening agents, for paper)

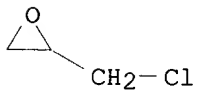
IT **61660-91-1D**, reaction products with oxidized starch and (3-chloro-2-hydroxypropyl)trimethylammonium chloride **72452-26-7D**, reaction products with oxidized starch and (3-chloro-2-hydroxypropyl)trimethylammonium chloride
RL: USES (Uses)
(strengthening agents for, for paper)

RN 61660-91-1 HCAPLUS

CN Phenol, 2,4,6-tris[(dimethylamino)methyl]-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

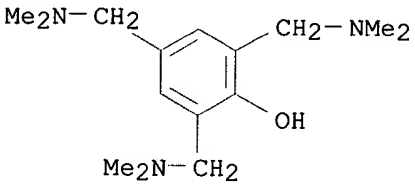
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 90-72-2
CMF C15 H27 N3 O

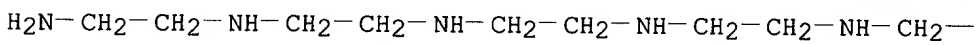


RN 72452-26-7 HCAPLUS
CN 3,6,9,12-Tetraazatetradecane-1,14-diamine, polymer with (chloromethyl)oxirane and N-methylmethanamine (9CI) (CA INDEX NAME)

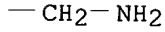
CM 1

CRN 4067-16-7
CMF C10 H28 N6

PAGE 1-A

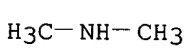


PAGE 1-B



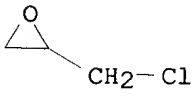
CM 2

CRN 124-40-3
CMF C2 H7 N



CM 3

CRN 106-89-8
CMF C3 H5 Cl O



L90 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1979:509270 HCAPLUS
DN 91:109270
TI Hydrophilic polyolefin fibers for use in papermaking
IN Rave, Terence W.

PA Hercules Inc., USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
IC D21H005-12
NCL 162157000R
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 39
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4156628	A	19790529	US 1977-818364	19770725
	US 4035229	A	19770712	US 1976-653188	19760128
	GB 1577635	A	19801029	GB 1979-10332	19770127
	US 4273892	A	19810616	US 1979-6969	19790125
PRAI	US 1974-521002		19741104		
	US 1976-653188		19760128		
	US 1976-721133		19760907		
	GB 1977-3363		19770127		
	US 1977-818364		19770725		

AB Refining polyolefin fibers in a disk refiner in the presence of **cationic** and anionic N-contg. polymers gives hydrophilic fibers which can be used in blends with wood pulp for paper products having improved phys. properties. Thus, a mixt. of isotactic polypropylene [25085-53-4] 90, acrylic acid-ethylene copolymer 10, and CH2C12 400 parts was stirred in an autoclave at 220.degree. and extruded into the air to give fibers which were refined at 0.25% consistency in aq. soln. contg. 0.1% blend (1:5) of **epichlorohydrin**-modified adipic acid-diethylenetriamine copolymer and glyoxal-modified acrylamide-acrylic acid copolymer. A hydrophilic pulp with 8.5% attached resin was obtained and mixed (30%) with 70% Kraft pulp, formed into sheet, dried, and calendered at 60.degree. and 500 lb/in. pressure to give a specimen with brightness 87.3%, opacity 85.8%, tensile strength 90%, and Mullen burst stength 86% of that for paper manufd. from 100% wood pulp.

ST polypropene fiber paper manuf; ethylene copolymer fiber papermaking; **epoxidized** polyamide hydrophilization polyolefin fiber; glyoxalated acrylamide copolymer hydrophilization; pulp synthetic fiber papermaking

IT Paper
(hydrophilic polyolefin fiber-contg., physicomech. properties of)

IT Polyolefin fibers
Polypropene fibers, uses and miscellaneous
RL: USES (Uses)
(paper contg., physicomech. properties. of)

IT 9002-88-4
RL: USES (Uses)
(fiber, contg. acrylic acid copolymer, **epoxidized** polymer-treated, paper from kraft pulp and)

IT 25085-53-4
RL: USES (Uses)
(fiber, contg. ethylene copolymer, hydrophilized, papermaking from kraft pulp and)

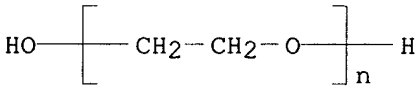
IT 9010-77-9
RL: USES (Uses)
(fiber, contg. isotactic polypropylene, hydrophilized, papermaking from kraft pulp and)

IT 9011-13-6
RL: USES (Uses)
(fiber, contg. polypropylene, hydrophilized, papermaking from kraft

pulp and)
IT **9056-51-3**
RL: USES (Uses)
(fiber, hydrophilized, papermaking from kraft pulp and)
IT 25214-24-8
RL: USES (Uses)
(fiber, **polyamine**-treated, paper from kraft pulp and)
IT 106-89-8D, reaction products with polyamide 107-22-2D, reaction products with acrylamide copolymer 9003-06-9D, reaction products with glyoxal 24937-14-2D, reaction products with glyoxal **25085-20-5D**, reaction products with **epichlorohydrin** 25513-34-2D, reaction products with glyoxal **29566-78-7D**, reaction products with **epichlorohydrin** **37100-08-6D**, reaction products with **epichlorohydrin**
RL: USES (Uses)
(polyolefin fibers treated with, papermaking from cellulose pulp and)
IT **9056-51-3**
RL: USES (Uses)
(fiber, hydrophilized, papermaking from kraft pulp and)
RN 9056-51-3 HCAPLUS
CN 2,5-Furandione, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

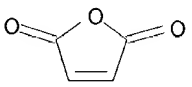
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



CM 2

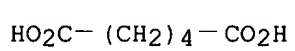
CRN 108-31-6
CMF C4 H2 O3



IT **25085-20-5D**, reaction products with **epichlorohydrin**
29566-78-7D, reaction products with **epichlorohydrin**
37100-08-6D, reaction products with **epichlorohydrin**
RL: USES (Uses)
(polyolefin fibers treated with, papermaking from cellulose pulp and)
RN 25085-20-5 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine (9CI) (CA INDEX NAME)

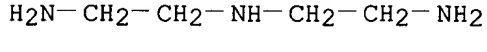
CM 1

CRN 124-04-9
CMF C6 H10 O4



CM 2

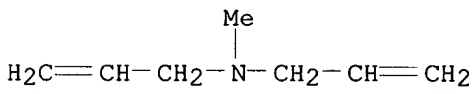
CRN 111-40-0
CMF C4 H13 N3



RN 29566-78-7 HCAPLUS
CN 2-Propen-1-amine, N-methyl-N-2-propenyl-, hydrochloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

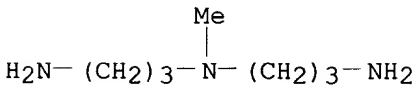
CRN 13107-01-2
CMF C7 H13 N . Cl H



RN 37100-08-6 HCAPLUS
CN Urea, polymer with N-(3-aminopropyl)-N-methyl-1,3-propanediamine (9CI) (CA INDEX NAME)

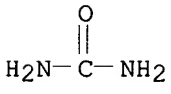
CM 1

CRN 105-83-9
CMF C7 H19 N3



CM 2

CRN 57-13-6
CMF C H4 N2 O



L90 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1979:170453 HCAPLUS
DN 90:170453
TI Paper having oil resistance and good sizing properties
IN Tezuka, Yujiro; Iijima, Isamu; Tsukamoto, Masaaki; Ota, Akita
PA Osaka Godo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC D21H001-38
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 54002410	A2	19790110	JP 1977-66333	19770607

AB Pulp slurries contg. no sizes were mixed with a water-sol. **cationic** resin such as polyethyleneimine [**9002-98-6**], formaldehyde-melamine copolymer [9003-08-1], etc. and/or a water-sol. Al salt, used to prep. paper, and treated with water-sol. fluoro resins to impart oil resistance. Thus, paper contg. 0.25% polyamide and 0.4% aluminum chloride was treated with 0.2% oilproofing agent to give paper having good oil resistance and sizing degree 73.1 s.
ST fluororesin oilproofing agent paper; aluminum compd additive paper; polyamide additive paper
IT Paper substitutes
(acrylic fibers, oilproofing agents for, fluoro polymer as)
IT Paper
(oilproofing agents for, fluoro polymers as)
IT Fluoropolymers
RL: USES (Uses)
(oilproofing agents, for paper)
IT Acrylic fibers, uses and miscellaneous
Asbestos
Rayon, uses and miscellaneous
Vinal fibers
RL: USES (Uses)
(paper substitutes, oilproofing agents for, fluoro polymers as)
IT Salts, uses and miscellaneous
RL: USES (Uses)
(paper treatment with, contg. aminoplasts and fluoro polymer, oil-resistant)
IT Oilproofing
(agents, fluoro polymers, for paper)
IT Polyamides, compounds
RL: USES (Uses)
(**polyamine**-, reaction products with **epichlorohydrin**, polymers, paper treatment with, contg. fluoro polymer and aluminum salts, oil-resistant)
IT 106-89-8D, reaction products with polyamideamines, polymers
9002-98-6 9003-05-8 9003-08-1 **9011-05-6** 26591-12-8
RL: USES (Uses)
(paper treatment with, contg. aluminum salts and fluoro polymer, oil-resistant)
IT 7446-70-0, uses and miscellaneous 7784-25-0 10043-01-3
RL: USES (Uses)
(paper treatment with, contg. aminoplasts and fluoro polymer, oil-resistant)

IT **9002-98-6 9011-05-6**
RL: USES (Uses)
(paper treatment with, contg. aluminum salts and fluoro polymer, oil-resistant)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

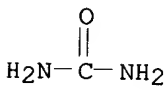
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 9011-05-6 HCAPLUS
CN Urea, polymer with formaldehyde (9CI) (CA INDEX NAME)

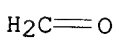
CM 1

CRN 57-13-6
CMF C H4 N2 O



CM 2

CRN 50-00-0
CMF C H2 O



L90 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1978:491303 HCAPLUS
DN 89:91303
TI Study of some factors on the retention of water-soluble polyelectrolyte **cations** by pulp
AU Valendo, P. F.; Kuznetsova, Yu. M.
CS Beloruss. Tekhnol. Inst., Minsk, USSR
SO Deposited Doc. (1976), VINITI 2945-76, 10 pp. Avail.: VINITI
DT Report
LA Russian
CC 43-6 (Cellulose, Lignin, **Paper**, and Other Wood Products)
AB The degree of retention of **cationic** polyelectrolytes, e.g., PEVP (a condensation product of epichlorohydrin and polyethylene polyamine), VA-212 (a chloromethylated and aminated styrene-vinyltoluene copolymer of mol. wt. 2860), and VA-2 (similar product to VA-212, but of mol. wt. 1260) by bleached sulfite pulp increases in the order: VA-2 > PEVP > VA-212. The degree of retention of the **cationic** polyelectrolytes

increases with increasing degree of beating of pulp and reaches a max. level at pH 4.3-4.5.

ST polyelectrolyte **cationic** retention pulp; beating pulp retention polyelectrolyte; styrene copolymer retention pulp; vinyltoluene copolymer retention pulp; epichlorohydrin polyelectrolyte retention pulp; polyethylenepolyamine deriv retention pulp

IT Polyelectrolytes
(**cationic**, retention of, by bleached sulfite pulp, effect of degree of beating and pH on)

IT Pulp, cellulose
(sulfite, retention by, of **cationic** polyelectrolytes, effect of degree of beating and pH on)

IT 106-89-8D, reaction product with polyethylenepolyamine **9002-98-6D**, reaction product with **epichlorohydrin** 37218-15-8D, chloromethylated and aminated
RL: USES (Uses)
(retention of, by bleached sulfite pulp, effect of degree of beating and pH on)

IT **9002-98-6D**, reaction product with **epichlorohydrin**
RL: USES (Uses)
(retention of, by bleached sulfite pulp, effect of degree of beating and pH on)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L90 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1977:45003 HCAPLUS
DN 86:45003
TI Wet strength paper containing mono primary polyamine and organic dihalide-modified, **epoxidized** polyamide
IN Lipowski, Stanley A.
PA Diamond Shamrock Corp., USA
SO U.S., 13 pp.
CODEN: USXXAM
DT Patent
LA English
IC D21H003-58
NCL 162164000EP
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 36

FAN.CNT 2

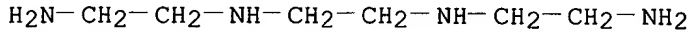
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3992251	A	19761116	US 1975-616858	19750925
	US 3793279	A	19740219	US 1972-304729	19721108
PRAI	US 1972-304729		19721108		
	US 1973-401386		19730927		

AB Terminating polyamides with polyamine, chain-extending with org. dihalide

and **epoxidizing** with **epichlorohydrin** (I) [106-89-8]
gave **cationic** resins for use in wet strengthening of paper.
Thus, adding 0.5% reaction products of adipic acid-diethylenetriamine
copolymer with (dimethylamino)propylamine,bis(chloroethyl) ether and I to
pulp gave paper with 21.2% wet strength (TAPPI T 456m-49 and T 404ts-66).
ST modified polyamide paper strengthening
IT Paper
(wet strengthening of, with modified polyamides)
IT **61470-75-5D**, reaction products with **epichlorohydrin**
RL: USES (Uses)
(paper wet-strengthening by)
IT 106-89-8D, reaction products with polyamide, **polyamine** and org.
dihalide 106-93-4D, reaction products with **epichlorohydrin**
61470-71-1D, reaction products with **epichlorohydrin**
61470-72-2D, reaction products with **epichlorohydrin**
61470-74-4D, reaction products with **epichlorohydrin**
61470-76-6D, reaction products with **epichlorohydrin**
61470-77-7D, reaction products with **epichlorohydrin**
61470-78-8D, reaction products **epichlorohydrin**
61470-79-9D, reaction products with **epichlorohydrin**
61470-80-2D, reaction products with **epichlorohydrin**
61470-81-3D, reaction products with **epichlorohydrin**
61470-82-4D, reaction products with **epichlorohydrin**
61470-83-5D, reaction products with **epichlorohydrin**
61470-84-6D, reaction products with **epichlorohydrin**
61470-85-7D, reaction products with **epichlorohydrin**
61470-86-8D, reaction products with **epichlorohydrin**
61470-87-9D, reaction products with **epichlorohydrin**
61470-88-0D, reaction products with **epichlorohydrin**
61470-89-1D, reaction products with **epichlorohydrin**
61470-90-4D, reaction products with **epichlorohydrin**
61470-91-5D, reaction products with **epichlorohydrin**
61470-92-6D, reaction products with **epichlorohydrin**
61470-93-7D, reaction products with **epichlorohydrin**
61470-94-8D, reaction products with **epichlorohydrin**
61470-95-9D, reaction products with **epichlorohydrin**
61470-96-0D, reaction products with **epichlorohydrin**
61470-97-1D, reaction products with **epichlorohydrin**
61470-98-2D, reaction products with **epichlorohydrin**
61470-99-3D, reaction products with **epichlorohydrin**
61471-00-9D, reaction products with **epichlorohydrin**
61471-01-0D, reaction products with **epichlorohydrin**
61471-02-1D, reaction products with **epichlorohydrin**
61471-03-2D, reaction products **epichlorohydrin**
61471-04-3D, reaction products with **epichlorohydrin**
61471-05-4D, reaction products with **epichlorohydrin**
61483-07-6D, reaction products with **epichlorohydrin**
61593-52-0D, reaction products with **epichlorohydrin**
RL: USES (Uses)
(wet strengthening with, of paper)
IT **61470-75-5D**, reaction products with **epichlorohydrin**
RL: USES (Uses)
(paper wet-strengthening by)
RN 61470-75-5 HCAPLUS
CN Ethanedioic acid, diethyl ester, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

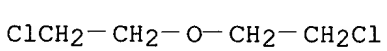
CM 1

CRN 112-24-3
CMF C6 H18 N4



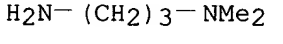
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O



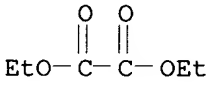
CM 3

CRN 109-55-7
CMF C5 H14 N2



CM 4

CRN 95-92-1
CMF C6 H10 O4



IT **61470-71-1D**, reaction products with **epichlorohydrin**
61470-72-2D, reaction products with **epichlorohydrin**
61470-74-4D, reaction products with **epichlorohydrin**
61470-76-6D, reaction products with **epichlorohydrin**
61470-77-7D, reaction products with **epichlorohydrin**
61470-78-8D, reaction products **epichlorohydrin**
61470-79-9D, reaction products with **epichlorohydrin**
61470-80-2D, reaction products with **epichlorohydrin**
61470-81-3D, reaction products with **epichlorohydrin**
61470-82-4D, reaction products with **epichlorohydrin**
61470-83-5D, reaction products with **epichlorohydrin**
61470-84-6D, reaction products with **epichlorohydrin**
61470-85-7D, reaction products with **epichlorohydrin**
61470-86-8D, reaction products with **epichlorohydrin**
61470-87-9D, reaction products with **epichlorohydrin**
61470-88-0D, reaction products with **epichlorohydrin**
61470-89-1D, reaction products with **epichlorohydrin**
61470-90-4D, reaction products with **epichlorohydrin**
61470-91-5D, reaction products with **epichlorohydrin**
61470-92-6D, reaction products with **epichlorohydrin**
61470-93-7D, reaction products with **epichlorohydrin**

61470-94-8D, reaction products with **epichlorohydrin**
61470-95-9D, reaction products with **epichlorohydrin**
61470-96-0D, reaction products with **epichlorohydrin**
61470-97-1D, reaction products with **epichlorohydrin**
61470-98-2D, reaction products with **epichlorohydrin**
61470-99-3D, reaction products with **epichlorohydrin**
61471-00-9D, reaction products with **epichlorohydrin**
61471-01-0D, reaction products with **epichlorohydrin**
61471-02-1D, reaction products with **epichlorohydrin**
61471-03-2D, reaction products **epichlorohydrin**
61471-04-3D, reaction products with **epichlorohydrin**
61471-05-4D, reaction products with **epichlorohydrin**
61483-07-6D, reaction products with **epichlorohydrin**
61593-52-0D, reaction products with **epichlorohydrin**
RL: USES (Uses)
(wet strengthening with, of paper)

RN 61470-71-1 HCAPLUS
CN Octanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 505-48-6
CMF C8 H14 O4

$HO_2C-(CH_2)_6-CO_2H$

CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 3

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 4

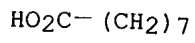
CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

RN 61470-72-2 HCAPLUS
CN Nonanedioic acid, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

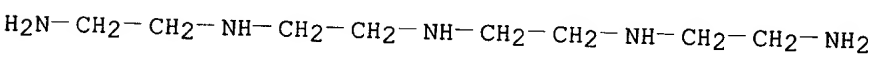
CM 1

CRN 123-99-9
CMF C9 H16 O4



CM 2

CRN 112-57-2
CMF C8 H23 N5

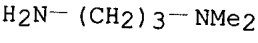


CM 3

CRN 111-44-4
CMF C4 H8 Cl2 O

CM 4

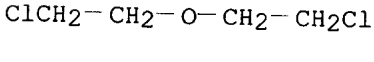
CRN 109-55-7
CMF C5 H14 N2



RN 61470-74-4 HCAPLUS
CN Decanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 111-44-4
CMF C4 H8 Cl2 O



CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 3

CRN 111-20-6
CMF C10 H18 O4

$HO_2C-(CH_2)_8-CO_2H$

CM 4

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

RN 61470-76-6 HCAPLUS
CN 2-Oxetanone, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

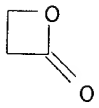
CM 3

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

CM 4

CRN 57-57-8
CMF C3 H4 O2



RN 61470-77-7 HCAPLUS
CN Butanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 3

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

CM 4

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

RN 61470-78-8 HCAPLUS
CN 2,5-Furandione, dihydro-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

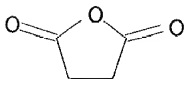
CM 3

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

CM 4

CRN 108-30-5
CMF C4 H4 O3



RN 61470-79-9 HCAPLUS
CN 2,5-Furandione, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 112-57-2
CMF C8 H23 N5

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

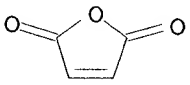
CM 3

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

CM 4

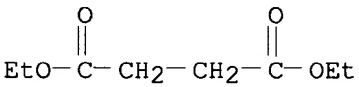
CRN 108-31-6
CMF C4 H2 O3



RN 61470-80-2 HCAPLUS
CN Butanedioic acid, diethyl ester, polymer with N-(3-aminopropyl)-N-methyl-1,3-propanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 123-25-1
CMF C8 H14 O4



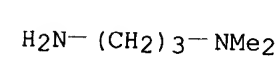
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

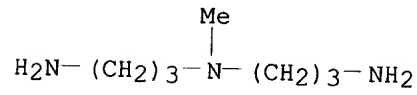
CM 3

CRN 109-55-7
CMF C5 H14 N2



CM 4

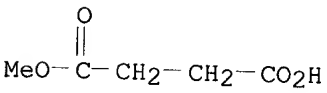
CRN 105-83-9
CMF C7 H19 N3



RN 61470-81-3 HCAPLUS
CN Butanedioic acid, monomethyl ester, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

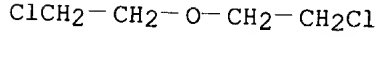
CM 1

CRN 3878-55-5
CMF C5 H8 O4



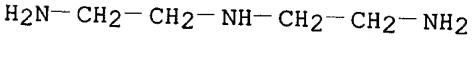
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O



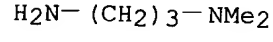
CM 3

CRN 111-40-0
CMF C4 H13 N3



CM 4

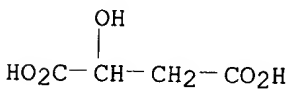
CRN 109-55-7
CMF C5 H14 N2



RN 61470-82-4 HCAPLUS
CN Butanedioic acid, hydroxy-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

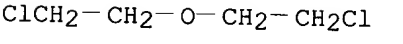
CM 1

CRN 6915-15-7
CMF C4 H6 O5



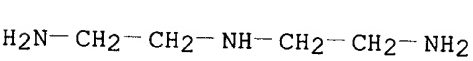
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O



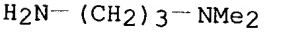
CM 3

CRN 111-40-0
CMF C4 H13 N3



CM 4

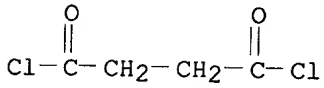
CRN 109-55-7
CMF C5 H14 N2



RN 61470-83-5 HCAPLUS
CN Butanedioyl dichloride, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 543-20-4
CMF C4 H4 Cl2 O2



CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 3

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 4

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

RN 61470-84-6 HCAPLUS
CN 2-Butenedioic acid (2E)-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, dibromomethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

CM 1

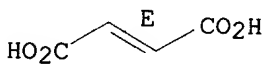
CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 2

CRN 110-17-8
CMF C4 H4 O4

Double bond geometry as shown.



CM 3

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

CM 4

CRN 74-95-3
CMF C H2 Br2

$Br-CH_2-Br$

RN 61470-85-7 HCAPLUS
CN Pentanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 3

CRN 110-94-1
CMF C5 H8 O4

$HO_2C-(CH_2)_3-CO_2H$

CM 4

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

RN 61470-86-8 HCAPLUS
CN 2H-Pyran-2,6(3H)-dione, dihydro-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

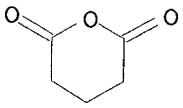
CM 3

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

CM 4

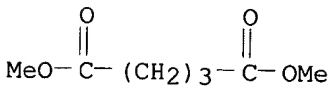
CRN 108-55-4
CMF C5 H6 O3



RN 61470-87-9 HCAPLUS
CN Pentanedioic acid, dimethyl ester, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

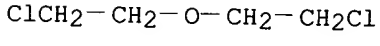
CM 1

CRN 1119-40-0
CMF C7 H12 O4



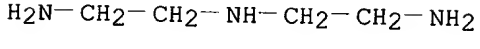
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O



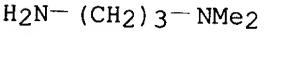
CM 3

CRN 111-40-0
CMF C4 H13 N3



CM 4

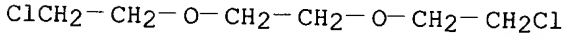
CRN 109-55-7
CMF C5 H14 N2



RN 61470-88-0 HCAPLUS
CN Butanedioic acid, methylene-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, 1,2-bis(2-chloroethoxy)ethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

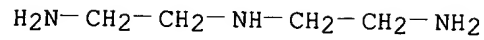
CM 1

CRN 112-26-5
CMF C6 H12 Cl2 O2



CM 2

CRN 111-40-0
CMF C4 H13 N3

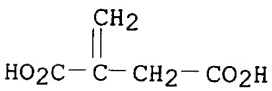


CM 3

CRN 109-55-7
CMF C5 H14 N2

CM 4

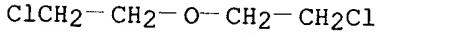
CRN 97-65-4
CMF C5 H6 O4



RN 61470-89-1 HCAPLUS
CN 2(3H)-Furanone, dihydro-5-methyl-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

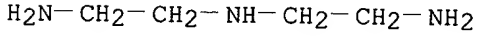
CM 1

CRN 111-44-4
CMF C4 H8 Cl2 O



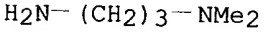
CM 2

CRN 111-40-0
CMF C4 H13 N3



CM 3

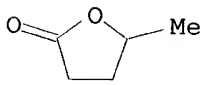
CRN 109-55-7
CMF C5 H14 N2



KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

CM 4

CRN 108-29-2
CMF C5 H8 O2



RN 61470-90-4 HCAPLUS
CN Hexanedioic acid, polymer with 2-[(2-aminoethyl)amino]ethanol, 1,1'-oxybis[2-chloroethane] and 3,6,9,12-tetraazatetradecane-1,14-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 4067-16-7
CMF C10 H28 N6

PAGE 1-A

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-$

PAGE 1-B

$-CH_2-NH_2$

CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

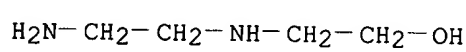
CM 3

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 4

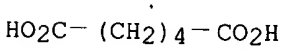
CRN 111-41-1
CMF C4 H12 N2 O



RN 61470-91-5 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, 1,2-bis(2-chloroethoxy)ethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

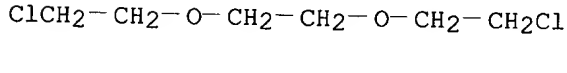
CM 1

CRN 124-04-9
CMF C6 H10 O4



CM 2

CRN 112-26-5
CMF C6 H12 Cl2 O2

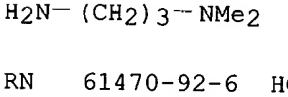


CM 3

CRN 111-40-0
CMF C4 H13 N3

CM 4

CRN 109-55-7
CMF C5 H14 N2



RN 61470-92-6 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, 1,2-dibromoethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 3

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

CM 4

CRN 106-93-4
CMF C2 H4 Br2

$Br-CH_2-CH_2-Br$

RN 61470-93-7 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, diiodomethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

CM 2

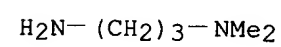
CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 3

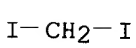
CRN 109-55-7

CMF C5 H14 N2



CM 4

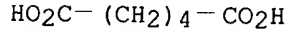
CRN 75-11-6
CMF C H2 I2



RN 61470-94-8 HCAPLUS
CN Hexanedioic acid, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

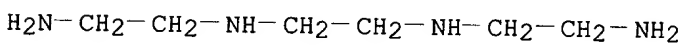
CM 1

CRN 124-04-9
CMF C6 H10 O4



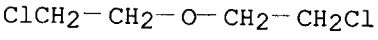
CM 2

CRN 112-24-3
CMF C6 H18 N4



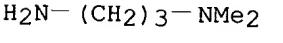
CM 3

CRN 111-44-4
CMF C4 H8 Cl2 O



CM 4

CRN 109-55-7
CMF C5 H14 N2



RN 61470-95-9 HCAPLUS
CN Hexanedioic acid, polymer with N,N-dimethyl-1,3-propanediamine, 1,1'-oxybis[2-chloroethane] and 3,6,9,12-tetraazatetradecane-1,14-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 4067-16-7
CMF C10 H28 N6

PAGE 1-A

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-$

PAGE 1-B

$-CH_2-NH_2$

CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

CM 3

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 4

CRN 109-55-7
CMF C5 H14 N2

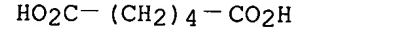
$H_2N-(CH_2)_3-NMe_2$

RN 61470-96-0 HCAPLUS
CN Hexanedioic acid, polymer with 2-[(2-aminoethyl)amino]ethanol, N-(3-aminopropyl)-N-methyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

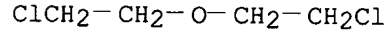
CRN 124-04-9

CMF C6 H10 O4



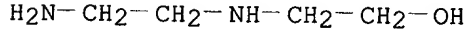
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O



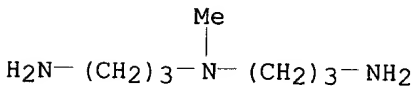
CM 3

CRN 111-41-1
CMF C4 H12 N2 O



CM 4

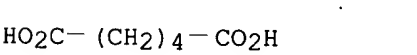
CRN 105-83-9
CMF C7 H19 N3



RN 61470-97-1 HCAPLUS
CN Hexanedioic acid, polymer with 2-[(2-aminoethyl)amino]ethanol, N-(2-aminoethyl)-1,2-ethanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

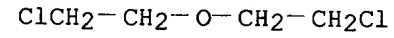
CM 1

CRN 124-04-9
CMF C6 H10 O4



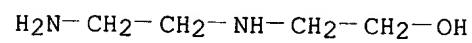
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O



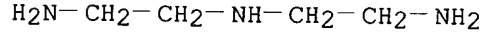
CM 3

CRN 111-41-1
CMF C4 H12 N2 O



CM 4

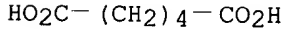
CRN 111-40-0
CMF C4 H13 N3



RN 61470-98-2 HCAPLUS
CN Hexanedioic acid, polymer with 2-[(2-aminoethyl)amino]ethanol, N,N'-bis(2-aminoethyl)-1,2-ethanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9
CMF C6 H10 O4

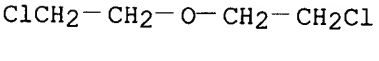


CM 2

CRN 112-24-3
CMF C6 H18 N4

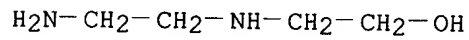
CM 3

CRN 111-44-4
CMF C4 H8 Cl2 O



CM 4

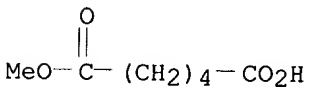
CRN 111-41-1
CMF C4 H12 N2 O



RN 61470-99-3 HCAPLUS
CN Hexanedioic acid, monomethyl ester, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

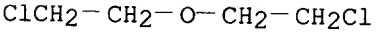
CM 1

CRN 627-91-8
CMF C7 H12 O4



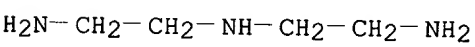
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O



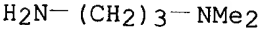
CM 3

CRN 111-40-0
CMF C4 H13 N3



CM 4

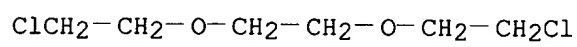
CRN 109-55-7
CMF C5 H14 N2



RN 61471-00-9 HCAPLUS
CN 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, 1,2-bis(2-chloroethoxy)ethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

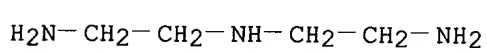
CM 1

CRN 112-26-5
CMF C6 H12 Cl2 O2



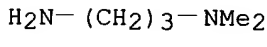
CM 2

CRN 111-40-0
CMF C4 H13 N3



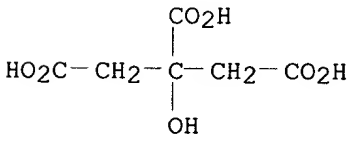
CM 3

CRN 109-55-7
CMF C5 H14 N2



CM 4

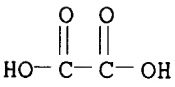
CRN 77-92-9
CMF C6 H8 O7



RN 61471-01-0 HCAPLUS
CN Ethanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

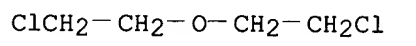
CM 1

CRN 144-62-7
CMF C2 H2 O4



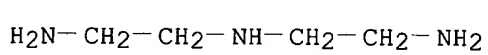
CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O



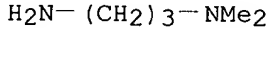
CM 3

CRN 111-40-0
CMF C4 H13 N3



CM 4

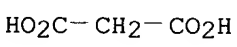
CRN 109-55-7
CMF C5 H14 N2



RN 61471-02-1 HCAPLUS
CN Propanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, 1,2-bis(2-chloroethoxy)ethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

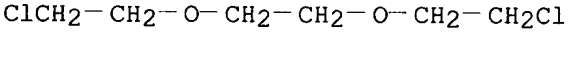
CM 1

CRN 141-82-2
CMF C3 H4 O4



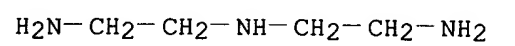
CM 2

CRN 112-26-5
CMF C6 H12 Cl2 O2



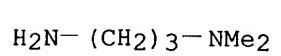
CM 3

CRN 111-40-0
CMF C4 H13 N3



CM 4

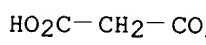
CRN 109-55-7
CMF C5 H14 N2



RN 61471-03-2 HCAPLUS
CN Propanedioic acid, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine, 1,2-bis(2-chloroethoxy)ethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

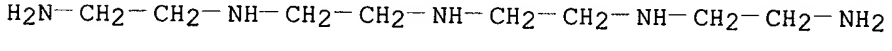
CM 1

CRN 141-82-2
CMF C3 H4 O4



CM 2

CRN 112-57-2
CMF C8 H23 N5

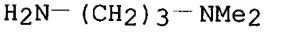


CM 3

CRN 112-26-5
CMF C6 H12 Cl2 O2

CM 4

CRN 109-55-7
CMF C5 H14 N2



RN 61471-04-3 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine,

N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

CM 2

CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 3

CRN 111-40-0
CMF C4 H13 N3

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

CM 4

CRN 109-55-7
CMF C5 H14 N2

$H_2N-(CH_2)_3-NMe_2$

RN 61471-05-4 HCAPLUS
CN Heptanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

CM 1

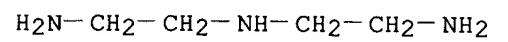
CRN 111-44-4
CMF C4 H8 Cl2 O

$ClCH_2-CH_2-O-CH_2-CH_2Cl$

CM 2

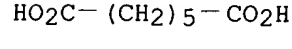
CRN 111-40-0

CMF C4 H13 N3



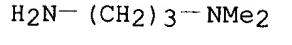
CM 3

CRN 111-16-0
CMF C7 H12 O4



CM 4

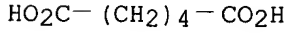
CRN 109-55-7
CMF C5 H14 N2



RN 61483-07-6 HCAPLUS
CN Hexanedioic acid, polymer with N-(3-aminopropyl)-N-methyl-1,3-propanediamine, 1,2-bis(2-chloroethoxy)ethane and N,N-dimethyl-1,3-propanediamine (9CI) (CA INDEX NAME)

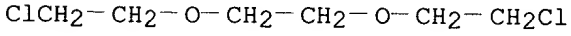
CM 1

CRN 124-04-9
CMF C6 H10 O4



CM 2

CRN 112-26-5
CMF C6 H12 Cl2 O2

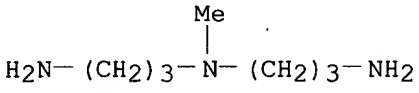


CM 3

CRN 109-55-7
CMF C5 H14 N2

CM 4

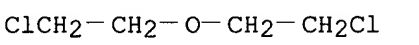
CRN 105-83-9
CMF C7 H19 N3



RN 61593-52-0 HCAPLUS
CN Propanedioic acid, diethyl ester, polymer with N-(2-aminoethyl)-1,2-ethanediamine, N,N-dimethyl-1,3-propanediamine and 1,1'-oxybis[2-chloroethane] (9CI) (CA INDEX NAME)

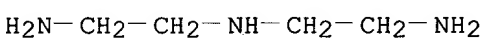
CM 1

CRN 111-44-4
CMF C4 H8 Cl2 O



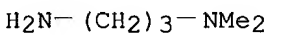
CM 2

CRN 111-40-0
CMF C4 H13 N3



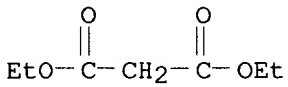
CM 3

CRN 109-55-7
CMF C5 H14 N2



CM 4

CRN 105-53-3
CMF C7 H12 O4



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                25322-68-3/BI OR 72018-12-3/BI OR 9002-98-6/BI)
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L64       35880 SEA FILE=REGISTRY ABB=ON  POLYAMINE/PCT
L65      153874 SEA FILE=REGISTRY ABB=ON  POLYVINYL/PCT
L66       74658 SEA FILE=REGISTRY ABB=ON  L65 AND 1-8/N
L67       33454 SEA FILE=REGISTRY ABB=ON  L66 AND (AMIN? OR AMID?)
L68      220214 SEA FILE=REGISTRY ABB=ON  POLYETHER/PCT
L69       43248 SEA FILE=HCAPLUS ABB=ON   L64
L70       27540 SEA FILE=HCAPLUS ABB=ON   L67
L71      340100 SEA FILE=HCAPLUS ABB=ON   L68
L72       18865 SEA FILE=HCAPLUS ABB=ON   (L69 OR L70) AND L71
L73         346 SEA FILE=HCAPLUS ABB=ON   L72 AND PAPER?/SC
L74          73 SEA FILE=HCAPLUS ABB=ON   L73 AND POLYAMINE#/IT
L75          18 SEA FILE=HCAPLUS ABB=ON   L74 AND POLYOXYALKYLENE?/IT
L76       18902 SEA FILE=HCAPLUS ABB=ON   L63/D
L77         107 SEA FILE=HCAPLUS ABB=ON   L76(L)?CHLOROHYDRIN?
L78        6496 SEA FILE=HCAPLUS ABB=ON   L76(L)(?OXYALKYLENE? OR ?OXYETHYLEN?
                OR POLYALKYLEN? OR POLYETHYLENE? )
L79         132 SEA FILE=HCAPLUS ABB=ON   L78 AND PAPER?/SC
L80          15 SEA FILE=HCAPLUS ABB=ON   L77 AND PAPER?/SC
L81           8 SEA FILE=HCAPLUS ABB=ON   L79 AND POLYAMINE?
L82         184 SEA FILE=HCAPLUS ABB=ON   L73 AND (?HYDRIN? OR ?EPOX? OR
                ?CARBOXYL? OR ?CHLOROFORMAT? OR ?ISOCYANAT? OR NCO OR HALOGEN)
L83          55 SEA FILE=HCAPLUS ABB=ON   L74 AND L82
L84          75 SEA FILE=HCAPLUS ABB=ON   L75 OR L80 OR L81 OR L83
L85           2 SEA FILE=REGISTRY ABB=ON  L62 NOT L63
L86        2990 SEA FILE=HCAPLUS ABB=ON   L85/D
L87         135 SEA FILE=HCAPLUS ABB=ON   L86(L)(?OXYALKYLENE? OR ?OXYETHYLEN?
                OR POLYALKYLEN? OR POLYETHYLENE? )
L88           9 SEA FILE=HCAPLUS ABB=ON   L87 AND PAPER?/SC
L89          82 SEA FILE=HCAPLUS ABB=ON   L84 OR L88
L90          29 SEA FILE=HCAPLUS ABB=ON   L89 AND CATION?
L92          30 SEA FILE=HCAPLUS ABB=ON   L74 AND CATION?
L93           5 SEA FILE=HCAPLUS ABB=ON   L92 NOT L90


=> D L91 1-5 ALL HITSTR

L91  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2002 ACS
AN   2000:314898  HCAPLUS
DN   132:323200
TI   Modified cationic polymers for use in paper production
IN   Decker, Jurgen; Mahr, Norbert; Esser, Anton; Meixner, Hubert;
     Dyllick-Brenzinger, Rainer; Aus Dem Kahmen, Martin; Gercke, Martin
PA   Basf Aktiengesellschaft, Germany
SO   PCT Int. Appl., 30 pp.
     CODEN: PIXXD2
DT   Patent
LA   German
IC   ICM  D21H021-02
     ICS  D21H017-45; D21H017-54; C08F008-00; C08G073-02; C08J003-24
CC   43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
FAN.CNT 1
     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
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PI   WO 2000026468      A1   20000511      WO 1999-EP8265   19991029
         W:  CA, JP, US
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
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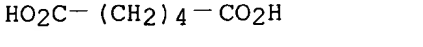
PT, SE
DE 19850817 A1 20000511 DE 1998-19850817 19981104
EP 1141483 A1 20011010 EP 1999-955916 19991029
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2002529612 T2 20020910 JP 2000-579834 19991029
PRAI DE 1998-19850817 A 19981104
WO 1999-EP8265 W 19991029
OS MARPAT 132:323200
AB The title polymers, useful as fixing agents for paper, are prepd. by the reaction of H2O-sol. polymers bearing NH groups with bifunctional C.gtoreq.8 compds. bearing **halohydrin**, **epoxide**, CO2H, **chloroformate** or **NCO** groups or **halogen** atoms. Stirring 860 g 25% aq. polyethylenimine (mol. wt. 750,000) with 7.03 g Me(CH2)nCH[O(CH2CH2O)10CH2CH(OH)CH2Cl]CH2O(CH2CH2O)10CH2CH(OH)CH2Cl at 60.degree. for 2 h gave a light yellow, cloudy soln. with viscosity 460 mPa-s at 23.degree.. Use of this soln. as a fixing agent for stickies in paper prodn. is exemplified.
ST **cationic** polymer fixing agent paper; polyethylenimine adduct polyoxyethylene **chlorohydrin**
IT Paper
(**cationic** polymers as fixing agents in paper prodn.)
IT **Polyoxyalkylenes**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**chlorohydrin**-terminated, alkyl derivs., reaction products with **polyamines**; modified **cationic** polymers for use in paper prodn.)
IT **Polyamines**
RL: TEM (Technical or engineered material use); USES (Uses)
(polyalkylene-, reaction products with adipic acid, ethylenimine and polyethylene glycol **bischlorohydrin**; modified **cationic** polymers for use in paper prodn.)
IT **124-04-9D**, Adipic acid, reaction products with **polyalkylenepolyamines**, ethylenimine and **polyethylene** glycol **bischlorohydrin 151-56-4D**, Ethylenimine, reaction products with **polyalkylenepolyamines**, adipic acid and **polyethylene** glycol **bischlorohydrin 9002-98-6D**, Polyethylenimine, reaction products with **polyethylene** glycol **bischlorohydrin 25322-68-3D**, **Polyethylene** glycol, **chlorohydrin**-terminated, alkyl derivs., reaction products with **polyamines 72018-12-3D**, Poly(N-vinylformamide), sapond., reaction products with **polyethylene** glycol **bischlorohydrin**
RL: TEM (Technical or engineered material use); USES (Uses)
(modified **cationic** polymers for use in paper prodn.)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Basf Ag; DE 19719059 A 1998 HCAPLUS
(2) Dyllick Brenzinger Rainer; WO 9725367 A 1997 HCAPLUS
(3) Holmes-Farley, S; US 5693675 A 1997 HCAPLUS
(4) Pinschmidt, R; US 5324787 A 1994 HCAPLUS
(5) Sanyo Chem Ind Ltd; JP 10-035090 A 1998 HCAPLUS
(6) Scherr, G; US 5536370 A 1996 HCAPLUS
IT **124-04-9D**, Adipic acid, reaction products with **polyalkylenepolyamines**, ethylenimine and **polyethylene** glycol **bischlorohydrin 151-56-4D**, Ethylenimine, reaction products with **polyalkylenepolyamines**, adipic acid and **polyethylene** glycol **bischlorohydrin 9002-98-6D**, Polyethylenimine, reaction products with **polyethylene** glycol **bischlorohydrin 25322-68-3D**, **Polyethylene**

glycol, **chlorohydrin**-terminated, alkyl derivs., reaction products with **polyamines 72018-12-3D**, Poly(N-vinylformamide), sapond., reaction products with **polyethylene** glycol **bischlorohydrin**
RL: TEM (Technical or engineered material use); USES (Uses)
(modified **cationic** polymers for use in paper prodn.)

RN 124-04-9 HCAPLUS
CN Hexanedioic acid (9CI) (CA INDEX NAME)



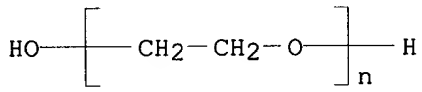
RN 151-56-4 HCAPLUS
CN Aziridine (9CI) (CA INDEX NAME)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 72018-12-3 HCAPLUS
CN Formamide, N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

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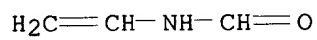
CMF C3 H5 N O



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                   25322-68-3/BI OR 72018-12-3/BI OR 9002-98-6/BI)
L63            3 SEA FILE=REGISTRY ABB=ON  L62 AND PMS/CI
L64        35880 SEA FILE=REGISTRY ABB=ON  POLYAMINE/PCT
L65       153874 SEA FILE=REGISTRY ABB=ON  POLYVINYL/PCT
L66        74658 SEA FILE=REGISTRY ABB=ON  L65 AND 1-8/N
L67        33454 SEA FILE=REGISTRY ABB=ON  L66 AND (AMIN? OR AMID?)
L68       220214 SEA FILE=REGISTRY ABB=ON  POLYETHER/PCT
L69        43248 SEA FILE=HCAPLUS ABB=ON  L64
L70        27540 SEA FILE=HCAPLUS ABB=ON  L67
L71       340100 SEA FILE=HCAPLUS ABB=ON  L68
L72        18865 SEA FILE=HCAPLUS ABB=ON  (L69 OR L70) AND L71
L73          346 SEA FILE=HCAPLUS ABB=ON  L72 AND PAPER?/SC
L74           73 SEA FILE=HCAPLUS ABB=ON  L73 AND POLYAMINE#/IT
L75           18 SEA FILE=HCAPLUS ABB=ON  L74 AND POLYOXYALKYLENE?/IT
L76        18902 SEA FILE=HCAPLUS ABB=ON  L63/D
L77          107 SEA FILE=HCAPLUS ABB=ON  L76(L)?CHLOROHYDRIN?
L78         6496 SEA FILE=HCAPLUS ABB=ON  L76(L)(?OXYALKYLENE? OR ?OXYETHYLEN?
                   OR POLYALKYLEN? OR POLYETHYLENE? )
L79          132 SEA FILE=HCAPLUS ABB=ON  L78 AND PAPER?/SC
L80           15 SEA FILE=HCAPLUS ABB=ON  L77 AND PAPER?/SC
L81            8 SEA FILE=HCAPLUS ABB=ON  L79 AND POLYAMINE?
L82          184 SEA FILE=HCAPLUS ABB=ON  L73 AND (?HYDRIN? OR ?EPOX? OR
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L83           55 SEA FILE=HCAPLUS ABB=ON  L74 AND L82
L84           75 SEA FILE=HCAPLUS ABB=ON  L75 OR L80 OR L81 OR L83
L85            2 SEA FILE=REGISTRY ABB=ON  L62 NOT L63
L86         2990 SEA FILE=HCAPLUS ABB=ON  L85/D
L87          135 SEA FILE=HCAPLUS ABB=ON  L86(L)(?OXYALKYLENE? OR ?OXYETHYLEN?
                   OR POLYALKYLEN? OR POLYETHYLENE? )
L88            9 SEA FILE=HCAPLUS ABB=ON  L87 AND PAPER?/SC
L89           82 SEA FILE=HCAPLUS ABB=ON  L84 OR L88
L90           29 SEA FILE=HCAPLUS ABB=ON  L89 AND CATION?
L92           30 SEA FILE=HCAPLUS ABB=ON  L74 AND CATION?
L93            5 SEA FILE=HCAPLUS ABB=ON  L92 NOT L90


=> D L93 1-5 ALL HITSTR

L93  ANSWER 1 OF 5  HCAPLUS  COPYRIGHT 2002 ACS
AN   2002:123316  HCAPLUS
DN   136:169237
TI   Manufacture of paper with improved drainage and retention by adding
     cationic and anionic polymers having aromatic groups
IN   Froelich, Sten; Solhage, Fredrik; Lindgren, Erik; Johansson-Vestin, Hans
PA   Akzo Nobel N.V., Neth.; Eka Chemicals AB
SO   PCT Int. Appl., 22 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM  D21H023-76
CC   43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
FAN.CNT 4
     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
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PI   WO 2002012626      A1   20020214       WO 2001-SE1701    20010802
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
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GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	AU 2001080361	A5	20020218	AU 2001-80361	20010802
	US 2002096275	A1	20020725	US 2001-923092	20010806
	US 2002096289	A1	20020725	US 2001-923096	20010806
	US 2002096290	A1	20020725	US 2001-923097	20010806
	US 2002100567	A1	20020801	US 2001-923094	20010806
PRAI	EP 2000-850135	A	20000807		
	EP 2000-850136	A	20000807		
	EP 2000-850137	A	20000807		
	EP 2000-850195	A	20001116		
	US 2000-223367P	P	20000807		
	US 2000-223368P	P	20000807		
	US 2000-223369P	P	20000807		
	US 2000-249365P	P	20001116		
	WO 2001-SE1701	W	20010802		

AB Process for manuf. of paper from an aq. suspension contg. cellulosic fibers, and optional fillers comprises sep. adding to the suspension a **cationic** org. polymer having .gtoreq.1 arom. groups (e.g., **cationic** starch obtained from native potato starch with 3-chloro-2-hydroxypropyldimethylbenzylammonium chloride) and an anionic polymer having .gtoreq.1 arom. groups (e.g., formaldehyde -naphthalenesulfonate anionic polycondensate), forming and draining the suspension on a wire.

ST cellulosic fiber suspension papermaking stock; arom **cationic** polymer draining retention aid; anionic polymer arom draining retention aid

IT Polyelectrolytes
(anionic; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT Polyethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(anionic; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT Polyelectrolytes
(**cationic**; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT **Polyamines**
Polysaccharides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**cationic**; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT Cellulose pulp
(kraft; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT Cellulose pulp
Paper
(manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT Kaolin, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT Polyurethanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polyamine**-, anionic; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT Polyurethanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester-, anionic; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT **Polyamines**
RL: TEM (Technical or engineered material use); USES (Uses)
(polyurethane-, anionic; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT 8062-15-5, Lignosulfonate 8068-05-1D, Kraft lignin, sulfonated **52781-36-9** 60130-60-1 **396716-47-5**
RL: TEM (Technical or engineered material use); USES (Uses)
(anionic; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

IT 9005-25-8D, Starch, reaction products with quaternary ammonium compds. **42751-79-1** 51290-10-9 67304-25-0D, reaction products with starch
RL: TEM (Technical or engineered material use); USES (Uses)
(**cationic**; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

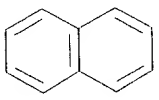
RE
(1) Bonn, J; US 6001166 A 1999 HCAPLUS
(2) Nalco Chemical Company; GB 1177512 A 1970
(3) Sikkar, R; WO 9833979 A 1998 HCAPLUS

IT **52781-36-9 396716-47-5**
RL: TEM (Technical or engineered material use); USES (Uses)
(anionic; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)

RN 52781-36-9 HCAPLUS
CN Naphthalenesulfonic acid, ion(1-), polymer with formaldehyde (9CI) (CA INDEX NAME)

CM 1

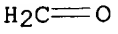
CRN 50852-11-4
CMF C10 H7 O3 S
CCI IDS



D1— SO_3^-

CM 2

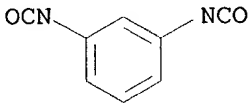
CRN 50-00-0
CMF C H2 O



RN 396716-47-5 HCAPLUS
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,3-diisocyanatomethylbenzene, 2,2'-(methylimino)bis[ethanol] and 2,2'-(phenylimino)bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

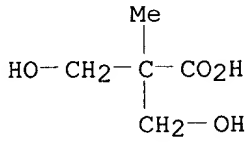
CRN 26471-62-5
CMF C9 H6 N2 O2
CCI IDS



D1—Me

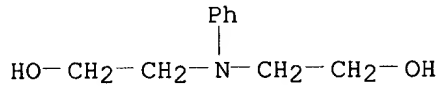
CM 2

CRN 4767-03-7
CMF C5 H10 O4



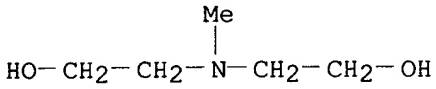
CM 3

CRN 120-07-0
CMF C10 H15 N O2



CM 4

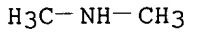
CRN 105-59-9
CMF C5 H13 N O2



IT **42751-79-1**
RL: TEM (Technical or engineered material use); USES (Uses)
(**cationic**; manuf. of paper with improved drainage and retention by adding **cationic** and anionic polymers having arom. groups)
RN 42751-79-1 HCAPLUS
CN 1,2-Ethanediamine, polymer with (chloromethyl)oxirane and N-methylmethanamine (9CI) (CA INDEX NAME)

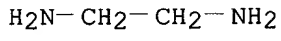
CM 1

CRN 124-40-3
CMF C2 H7 N



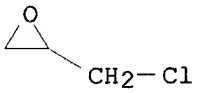
CM 2

CRN 107-15-3
CMF C2 H8 N2



CM 3

CRN 106-89-8
CMF C3 H5 Cl O



L93 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:129836 HCAPLUS
DN 134:180185
TI Hydrophilic, humectant, soft, pliable, absorbent paper having wet strength agents and its manufacture
IN Oriaran, T. Philips; Burrier, Byron E.; Ostrowski, Henry S.; Post, Elroy W.; Propp, Jacob H.
PA Fort James Corp., USA
SO U.S., 32 pp., Cont.-in-part of U. S. Ser. No. 851,657.
CODEN: USXXAM
DT Patent
LA English

IC ICM D21H017-45
ICS B31F001-12
NCL 162111000
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6190499	B1	20010220	US 1999-264575	19990308
	US 6017418	A	20000125	US 1997-851657	19970506
	US 6176972	B1	20010123	US 2000-578190	20000524
	US 6200418	B1	20010313	US 2000-578189	20000524
	US 6203664	B1	20010320	US 2000-578169	20000524
	US 6207012	B1	20010327	US 2000-577899	20000524
	US 6207013	B1	20010327	US 2000-578238	20000524
PRAI	US 1996-770929	B2	19961223		
	US 1997-851657	A2	19970506		
	US 1999-264575	A3	19990308		

OS MARPAT 134:180185
AB Wet pressed absorbent papers having temporary or permanent wet strength properties are useful as bathroom tissue and napkins. The paper is formed from cellulosic fibers and optionally .ltoreq.50% synthetic fibers and a softener having a m.p. 0-40.degree., where the softener comprises an imidazoline moiety formulated with org. compds. having a wt.-av. mol. wt. 60-1500 selected from alkoxylated polyols, alkoxylated diols, aliph. diols, aliph. polyols, and a mixt. of these compds., the amt. of softener added is .apprx.1-10 lb/ton furnish, but the softener is controlled to achieve a ratio of av. particle size of dispersed softener to av. fiber diam. .apprx.0.01-15%, and wet strength agent 1-20 lb/ton furnish. An example wet strength agent is a **cationic** glyoxylated poly(acrylamide co-diallyl di-Me ammonium chloride). In many applications, these products need not be creped, and in that case they do not have the serpentine configuration.
ST tissue paper wet strength; napkin wet strength; absorbent paper wet strength
IT Polyolefin fibers
RL: TEM (Technical or engineered material use); USES (Uses)
(ethylene; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)
IT Polyethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fiber; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)
IT Softening agents
(hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)
IT Acrylic fibers, uses
Polyamide fibers, uses
Polyester fibers, uses
Polypropene fibers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)
IT Paper
(napkins; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)
IT **Polyamines**
RL: MOA (Modifier or additive use); USES (Uses)
(polyamide-, wet strength additive; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)
IT Polyamides, uses

RL: MOA (Modifier or additive use); USES (Uses)
(**polyamine-**, wet strength additive; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

IT Synthetic polymeric fibers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyethers; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

IT Paper
(tissue; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

IT Paper
(towels; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

IT 9002-88-4 25085-53-4
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(fiber; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

IT 9003-05-8D, Polyacrylamide, glyoxalated **26590-05-6D**, Acrylamide-diallyldimethylammonium chloride copolymer, glyoxalated 90452-60-1, Parez 631NC 326810-85-9, Parez 745
RL: MOA (Modifier or additive use); USES (Uses)
(hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

IT 504-75-6D, Imidazoline, derivs., reaction products with ethoxylated trimethylpentanediol **187882-62-8D**, reaction products with imidazolines 199195-28-3, Quasoft 202JR
RL: MOA (Modifier or additive use); USES (Uses)
(softener; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde 542-78-9, Malonic dialdehyde 638-37-9, Succinic dialdehyde 173717-69-6, Kymene 557LX 210235-31-7, CoBond 1600
RL: MOA (Modifier or additive use); USES (Uses)
(wet strength additive; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

IT 9005-25-8, Starch, uses
RL: MOA (Modifier or additive use); USES (Uses)
(wet strength agent; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Drach; US 4720383 1988 HCAPLUS
(2) Fereshtehkhou; US 5494731 1996 HCAPLUS
(3) Oriaran; US 5695607 1997
(4) Oriaran; US 6017418 2000 HCAPLUS
(5) Panzer; US 4113934 1978 HCAPLUS
(6) Whitfield; US 4432834 1984 HCAPLUS

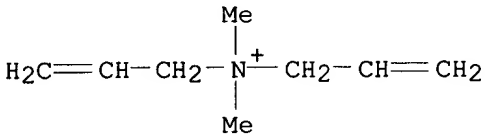
IT **26590-05-6D**, Acrylamide-diallyldimethylammonium chloride copolymer, glyoxalated
RL: MOA (Modifier or additive use); USES (Uses)
(hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)

RN 26590-05-6 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, polymer with 2-propenamide (9CI) (CA INDEX NAME)

CM 1

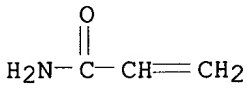
CRN 7398-69-8

CMF C8 H16 N . Cl

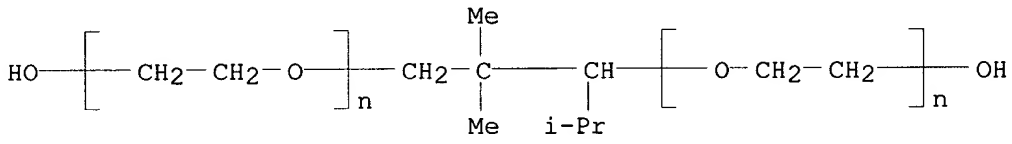


CM 2

CRN 79-06-1
CMF C3 H5 N O



IT **187882-62-8D**, reaction products with imidazolines
RL: MOA (Modifier or additive use); USES (Uses)
(softener; hydrophilic, humectant, soft, pliable, absorbent paper having agents for good wet strength)
RN 187882-62-8 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[2,2-dimethyl-1-(1-methylethyl)-1,3-propanediyl]bis[.omega.-hydroxy- (9CI) (CA INDEX NAME)



L93 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:716196 HCAPLUS
DN 129:317818
TI Production of paper, pulpboard and cardboard
IN Linhart, Friedrich; Melzer, Jaroslav; Meixner, Hubert
PA Basf A.-G., Germany
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM D21H021-02
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9846828	A1	19981022	WO 1998-EP1947	19980402

W: AL, AU, BG, BR, BY, CA, CN, CZ, GE, HU, ID, IL, JP, KR, KZ, LT,

LV, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TR, UA, US, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

DE	19715832	A1	19981022	DE 1997-19715832	19970416
AU	9875216	A1	19981111	AU 1998-75216	19980402
EP	975837	A1	20000202	EP 1998-922636	19980402
EP	975837	B1	20020731		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL				
JP	2001518994	T2	20011016	JP 1998-543426	19980402
AT	221595	E	20020815	AT 1998-922636	19980402
ZA	9803137	A	19991015	ZA 1998-3137	19980415
US	6303002	B1	20011016	US 1999-403008	19991015
PRAI DE	1997-19715832	A	19970416		
WO	1998-EP1947	W	19980402		

AB Paper, pulpboard and cardboard are prepd. from pulp contg. sticky impurities by adding surfactants and **cationic** polymers (charge d. .gtoreq.1.5 mequiv./g at pH 7, mol. wt. .gtoreq.15,000), dewatering the pulp and fixing the sticky impurities in the finished paper. A thermomech. pulp (2.1 g solids/L, pH 7.0, Schopper-Riegler fineness 51.degree.) was mixed with 0.1% (based on solids) ethoxylated (d.p. 7) nonylphenol and 0.2% poly(diallyldimethylammonium chloride) (charge d. 8 mequiv./g, mol. wt. 200,000), dewatered, and dried to give paper contg. 0.56% sticky impurities; vs. 0.015 with no additives, and 0.03 without the **cationic** polymer.

ST retention aid paper manuf; **cationic** polymer retention aid paper; quaternary ammonium polymer retention aid; diallyldimethylammonium chloride polymer retention aid; cardboard manuf retention aid

IT Polyelectrolytes
(**cationic**, retention aids; prodn. of paper, pulpboard and cardboard)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(fatty, alkoxylated, retention aids; prodn. of paper, pulpboard and cardboard)

IT **Polyamines**
Polyamines
RL: MOA (Modifier or additive use); USES (Uses)
(polyamide-, retention aids; prodn. of paper, pulpboard and cardboard)

IT Polyamides, uses
Polyamides, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**polyamine**-, retention aids; prodn. of paper, pulpboard and cardboard)

IT Quaternary ammonium compounds, uses
RL: MOA (Modifier or additive use); USES (Uses)
(polymers, retention aids; prodn. of paper, pulpboard and cardboard)

IT Paper
Paperboard
(retention aids for prodn. of paper, pulpboard and cardboard)

IT Surfactants
(retention aids; prodn. of paper, pulpboard and cardboard)

IT **9002-98-6D**, Polyethylenimine, **cationic** derivs.
9003-05-8D, Polyacrylamide, **cationic** derivs. **9003-11-6D**, Polyethylene-polypropylene glycol, mono(fatty alkyl) ethers **9016-45-9**, Polyethylene glycol mono(nonylphenyl) ether **26062-79-3**, Diallyldimethylammonium chloride polymer 26591-12-8, Dicyandiamide-formaldehyde copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(retention aids; prodn. of paper, pulpboard and cardboard)

IT **9002-98-6D**, Polyethylenimine, **cationic** derivs.
9003-11-6D, Polyethylene-polypropylene glycol, mono(fatty alkyl) ethers **9016-45-9**, Polyethylene glycol mono(nonylphenyl) ether **26062-79-3**, Diallyldimethylammonium chloride polymer
RL: MOA (Modifier or additive use); USES (Uses)
(retention aids; prodn. of paper, pulpboard and cardboard)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

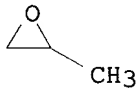
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 9003-11-6 HCAPLUS
CN Oxirane, methyl-, polymer with oxirane (9CI) (CA INDEX NAME)

CM 1

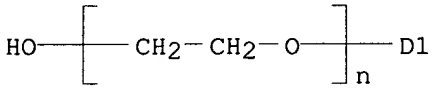
CRN 75-56-9
CMF C3 H6 O



CM 2

CRN 75-21-8
CMF C2 H4 O

RN 9016-45-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy- (9CI) (CA INDEX NAME)

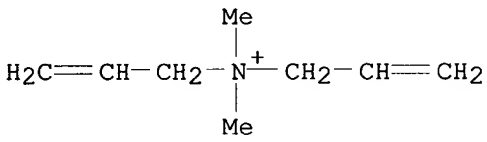


D1-$(CH_2)_8$-Me

RN 26062-79-3 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



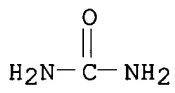
● Cl^-

L93 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2002 ACS
AN 1988:188666 HCAPLUS
DN 108:188666
TI Consolidation of ash heaps with preparations obtained from pulp and paper industry wastes
AU Sulga, G.; Telysheva, G. M.; Berzina, M.; Rekners, F.; Basnina, L. V.; Yakovlev, V. N.
CS Inst. Khim. Drev., Riga, USSR
SO Latv. PSR Zinat. Akad. Vestis (1987), (12), 101-5
CODEN: LZAVAL; ISSN: 0023-8929
DT Journal
LA Russian
CC 43-6 (Cellulose, Lignin, **Paper**, and Other Wood Products)
Section cross-reference(s): 51, 60
AB Ash heaps from coal-burning power plants were effectively stabilized by surface treatment with lignosulfonate-polymer complexes which acted as binders reinforcing the heap surface. **Cationic** polyelectrolyte PKB-1, **cationic** copolymer Amiflok, polyamines, or oligomeric aminoplasts were used as the polymer component of the complexes. Application of these complexes in amt. of 1.5-4.0 L/m3 led to formation of a 0.15-1.05-cm-thick crust with puncture strength 0.05-1.42 MPa. The formed crust exhibited good weathering and wind resistance.
ST ash heap power plant stabilization; lignosulfonate polymer complex ash

heap
IT Polyelectrolytes
Aminoplasts
Polyamines
RL: USES (Uses)
(complexes with lignosulfonates, for ash heap surface stabilization, against dusting)
IT Ashes (residues)
(coal, heaps, lignosulfonate-polymer complexes for surface stabilization of, against dusting)
IT Amines, compounds
RL: USES (Uses)
(poly-, complexes with lignosulfonates, for ash heap surface stabilization, against dusting)
IT 8062-15-5D, Lignosulfonic acid, salts, complexes with polymers
9011-05-6D, complexes with lignosulfonates **26062-79-3D**,
PKB-1, complexes with lignosulfonates 61910-84-7D, Diethylaminoethyl methacrylate-methacrylamide copolymer, **cationic**, complexes with lignosulfonates 69071-19-8D, Amiflok, complexes with lignosulfonates
RL: USES (Uses)
(for ash heap surface stabilization, against dusting)
IT **9011-05-6D**, complexes with lignosulfonates **26062-79-3D**,
PKB-1, complexes with lignosulfonates
RL: USES (Uses)
(for ash heap surface stabilization, against dusting)
RN 9011-05-6 HCAPLUS
CN Urea, polymer with formaldehyde (9CI) (CA INDEX NAME)

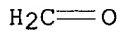
CM 1

CRN 57-13-6
CMF C H4 N2 O



CM 2

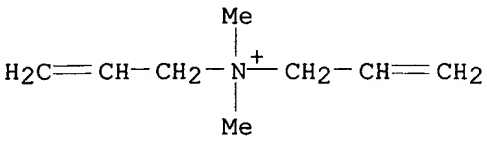
CRN 50-00-0
CMF C H2 O



RN 26062-79-3 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



L93 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2002 ACS
AN 1983:541805 HCAPLUS
DN 99:141805
TI Strengthening agents for paper
PA DIC Hercules, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC D21H003-52; D21H003-28
CC 43-7 (Cellulose, Lignin, **Paper**, and Other Wood Products)
FAN.CNT 1

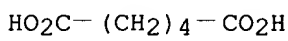
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 58031199	A2	19830223	JP 1981-127768	19810817

AB Mixts. contg. an anionic starch dialdehyde and a **cationic** polyamide contg. secondary amino groups are useful as strengthening agents for paper. Thus, 10 g NaHSO3 was treated with 100 g starch dialdehyde (moisture content 10%) in 900 g H2O to give an adduct (I) [87240-05-9]. Diethylenetriamine (103 g) was copolymd. with 146 g adipic acid and 10.9 g diethylene glycol diglycidyl ether to give a polyamidepolyamine (II) [**87106-03-4**]. A pulp slurry contg. 0.6% (on pulp wt.) I dispersion and 0.4% (on pulp wt.) II dispersion (nonvolatiles 30%) was passed through a papermaking machine and dried to give paper with high bursting strength.
ST paper bursting strength; starch dialdehyde deriv strengthening agent; polyamide polyamine strengthening agent; strengthening agent paper
IT Paper
(strengthening agents for, anionic starch dialdehyde derivs.-polyamidepolyamine mixts. as)
IT Polyamides, uses and miscellaneous
RL: USES (Uses)
(**polyamine**-, strengthening agents, with starch dialdehyde derivs., for paper)
IT **26568-79-6 87106-03-4**
RL: USES (Uses)
(strengthening agents, with anionic starch dialdehyde derivs., for paper)
IT 7631-90-5D, reaction products with starch dialdehyde and polyacrylamide 9003-05-8D, reaction products with sodium hydrogen sulfite and starch dialdehyde 9047-50-1D, reaction products with sodium hydrogen sulfite and polyacrylamide 87240-05-9
RL: USES (Uses)
(strengthening agents, with polyamidepolyamines, for paper)
IT **26568-79-6 87106-03-4**
RL: USES (Uses)
(strengthening agents, with anionic starch dialdehyde derivs., for paper)

RN 26568-79-6 HCAPLUS
CN Hexanedioic acid, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane (9CI) (CA INDEX NAME)

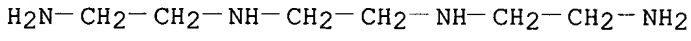
CM 1

CRN 124-04-9
CMF C6 H10 O4



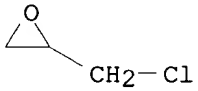
CM 2

CRN 112-24-3
CMF C6 H18 N4



CM 3

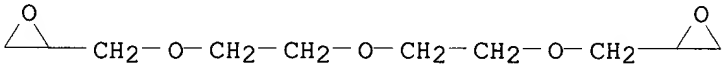
CRN 106-89-8
CMF C3 H5 Cl O



RN 87106-03-4 HCAPLUS
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine and 2,2'-[oxybis(2,1-ethanediyloxymethylene)]bis[oxirane] (9CI) (CA INDEX NAME)

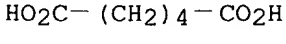
CM 1

CRN 4206-61-5
CMF C10 H18 O5



CM 2

CRN 124-04-9
CMF C6 H10 O4



CM 3

CRN 111-40-0
CMF C4 H13 N3